HCD-H61/H61M

SERVICE MANUAL

Photo: HCD-H61 E model

AEP Model
E Model
Australian Model
Tourist Model
HCD-H61

US Model
Canadian Model
AEP Model
UK Model
HCD-H61M

Discard HCD-H61/H61M Service Manual (No. 9-957-612-11) priviously issued. This Service Manual contains it.

- HCD-H61 is the tuner, deck, CD and amplifier section in FH-B610/B700.
- HCD-H61M is the tuner, deck, CD and amplifier section in MHC-610.

SPECIFICATION

AUDIO POWER SPECIFICATIONS (For the Customers in the USA)
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 6 ohm loads, both channels driven, form 60 Hz—20 kHz; rated 35 watts per channel minimum RMS power, with no more than 1% total harmonic distortion from 250 miliwatts to rated output.

Tuner section
FM stereo. FM/AM superheterodyne tuner

FM tuner section
Tuning range For tourists model
76.0—108.0 MHz
For East European model
65.0—74.0 MHz
87.5—108.0 MHz
For other countries models
87.5—108.0 MHz
Antenna FM lead antenna (for HCD-H61M)
Telescopic antenna (for HCD-H61)
Antenna terminals
75 ohm unbalanced
Intermediate frequency
10.7 MHz

AM tuner section
Tuning range For US, Canadian model
AM: 530—1,710 kHz
For Italian model
AM: 522—1,611 kHz
For Germany model
AM: 531—1,602 kHz
For AEP, East European, UK model
MW: 531—1,602 kHz
LW: 153—279 kHz
For other countries models
MW : 531—1,602 kHz (at 9 kHz step)
530—1,710 kHz (at 10 kHz step, except for Middle Eastern model)
SW : 5.950—17.900 MHz
Antenna AM loop antenna
External antenna terminals
Intermediate frequency
450 kHz

Amplifier section
For AEP, UK, East European, Germany, Italian model
Continuous RMS power output
35+35 watts (6 ohms at 1 kHz, DIN)
40+40 watts (6 ohms at 1 kHz, 5% THD)
Music power output
80+80 watts (6 ohms at 1 kHz, 10% THD)
For US, Canadian model
35+35 watts (6 ohms at 1 kHz, 5% THD)
For other countries models
Continuous RMS power output
40+40 watts (6 ohms at 1 kHz, 5% THD)
Peak music power output
450 watts (4 speakers driven)

Inputs
For E, Saudi Arabia, Australian, Malaysia, Singapore, Tourist model
MIX MIC (minijack)
Sensitivity 1 mV, impedance 600 ohms
VIDEO/AUX (phono jack)
sensitivity 250 mV, impedance 47 kilohms
For AEP, UK, Germany, East European, Italian model
PHONO (phono jack)
sensitivity 5 mV, impedance 47 kilohms
For US, Canadian model
VIDEO/AUX (phono jack)
sensitivity 250 mV, impedasnce 47 kilohms

CD Section	Model Name Using Similar Mechanism		NEW
	CD Mechanism Type		CDM13B-5BD4E
	Base Unit Name		BU-5BD4E
Tape deck Section	Model Name Using Similar Mechanism		DXA-H2750
	Tape Transport Mechanism Type	DECK A	TCM-190RA12A
		DECK B	TCM-190RB22A

— Continued on next page —

MICROFILM

COMPACT DISC DECK RECEIVER

SONY®

Outputs
HEADPHONES (stereo minijack):
accept headphones of 8 ohms or more.
SPEAKERS: accept impedance of 6 to 16 ohms.

SURROUND SPEAKER (only for E, Saudi Arabia, Australian, Malaysia, Singapore, Tourist):
accept impedance of 8 to 16 ohms.

Cassette deck section
Recording system
4-track 2-channel stereo

Frequency response
(DOLBY NR OFF)
60—13,000 HZ (±3 dB), using TYPE I cassette (Sony HF-S)
60—14,000 Hz (±3 dB), using TYPE II cassette (Sony UX-S)
Wow and flutter
0.1% WRMS ± 0.3% (DIN)

Compact disc player section
System Compact disc digital audio systme
Laser Semiconductor laser
Wavelength=780—790 nm

General

Destination	Power requirements	Power consumption
US, Canadian	120V AC, 60Hz	100 watts
AEP, G, IT, EE	220—230V AC, 50/60Hz	110 watts
UK	240V AC, 50Hz	240W
Australian		130W
E, EA, MY, SP, JE	110—120V/220—240V AC adjustable, 50/60Hz	130 watts

● AUS : Australian model
EA : Saudi Arabia model
G : Germany model
EE : East European model
IT : Italian model
MY : Malaysia model
SP : Singapore model
JE : Tourist model

Dimensions
Approx. 225 × 285 × 265 mm (w/h/d) (8 7/8 × 11 1/4 × 10 1/2 inches) incl. projecting parts and controls
Mass Approx. 6.3 kg (14 lb 5 oz)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

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FH-B610/B700
MHC-610

SERVICE MANUAL

US Model
Canadian Model
UK Model
MHC-610

AEP Model
FH-B610/MHC-610

E Model
Australian Model
Tourist Model
FH-B700

- FH-B610/B700 and MHC-610 are composed of following models. As for the service manual, it is issued for each component models, then, please refer to it.

COMPONENT MODEL NAME FOR FH-B610/B700 and MHC-610

System / Componet	FH-B610	FH-B700	MHC-610
Tuner, deck, CD, amplifier	HCD-H61		HCD-H61M
Speaker System	SS-H51	SS-H10	

SPECIFICATIONS

Destination	Power requirements	Power consumption
US, Canadian	120V AC, 60Hz	100 watts
AEP, G, IT, EE	220 – 230V AC, 50/60Hz	110 watts
UK	240V AC, 50Hz	240W
Australian		130W
E, EA, JE	110 – 120V/220 – 240V AC adjustable, 50/60Hz	130 watts

- AUS : Australian model
  EA : Saudi Arabia model
  G : Germany model
  EE : East European model
  IT : Italian model
  JE : Tourist model

Dimensions: Approx. 225 x 285 x 265 mm (w/h/d) ($8\frac{7}{8} \times 11\frac{1}{4} \times 10\frac{1}{2}$ inches) incl. projecting parts and controls

Mass: Approx. 6.3 kg (14 lb 5 oz)

Accessories supplied:
- Remote commander (1)
- Sony SUM-3 (NS) batteries (2)
- AM loop antenna (1)
- FM lead antenna (1) (MHC-610: AEP model only)
- Speaker cords (2) (MHC-610 only)

Design and specifications subject to change without notice.

MICROFILM

MINI Hi-Fi
COMPONENT SYSTEM
SONY®

PARTS LIST

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

·AUS:Australian
·EA:Saudi Arabia
·EE:East European
·IT:Italian
·JE:Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remark
		ACCESSORY & PACKING MATERIALS	
		**********	
	1-466-944-11	REMOTE COMMANDER (RM-S61)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-594-11	ANTENNA (FM) (MHC-610:AEP/UK)	
⚠	1-569-007-11	ADAPTER, CONVERSION 2P (FH-B700:E/JE)	
⚠	1-569-008-11	ADAPTER, CONVERSION 2P (FH-B700:EA)	
	1-557-954-21	CORD, SPEAKER CONNECTION (MHC-610:US/Canadian)	
	3-756-249-11	MANUAL, INSTRUCTION (ENGLISH/SPANISH/CHINESE) (FH-B700:E/EA/JE)	
	3-756-249-21	MANUAL, INSTRUCTION (ENGLISH) (FH-B610:EE, FH-700:AUS, MHC-610:US/Canadian/UK)	
	3-756-249-41	MANUAL, INSTRUCTION (FRENCH/PORTUGUESE/ GERMAN/DUTCH) (FH-B610:AEP, MHC-610:AEP/Canadian)	
	3-756-249-51	MANUAL, INSTRUCTION (SPANISH/ITALIAN) (FH-B610:AEP/IT, MHC-610:AEP)	
	3-756-249-61	MANUAL, INSTRUCTION (GERMAN) (FH-B610:Germany)	
	3-756-249-71	MANUAL, INSTRUCTION (GERMAN/RUSSIAN/POLISH) (FH-B610:EE)	
	3-756-249-81	MANUAL, INSTRUCTION (SWEDISH/FINNISH) (FH-B610:AEP, MHC-610:AEP)	
	3-756-249-91	MANUAL, INSTRUCTION (ARABIC) (FH-B700:E/EA)	
	4-941-762-11	COVER (MLY), BATTERY (FOR RM-S61)	
*	4-956-394-01	CUSHION (FOR SS-H10)	
*	4-956-539-01	CUSHION (FOR SS-H51)	
*	4-956-936-01	CUSHION (LOWER) (FOR HCD-H61/H61M)	
*	4-956-937-01	CUSHION (UPPER) (FOR HCD-H61/H61M)	
*	4-957-463-01	INDIVIDUAL CARTON (MHC-610)	
*	4-957-464-01	INDIVIDUAL CARTON (FH-B610)	
*	4-957-465-01	INDIVIDUAL CARTON (FH-B700:E/EA/JE)	
*	4-957-466-01	INDIVIDUAL CARTON (FOR HCD-H16M:UK)	
*	4-957-899-01	INDIVIDUAL CARTON (FH-B700:AU)	
*	X-4943-496-1	HANDLE ASSY (FH-B700:E/EA/JE)	

English
93A06102-1
Printed in Japan

Published by Audio Corporate Planning Group

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

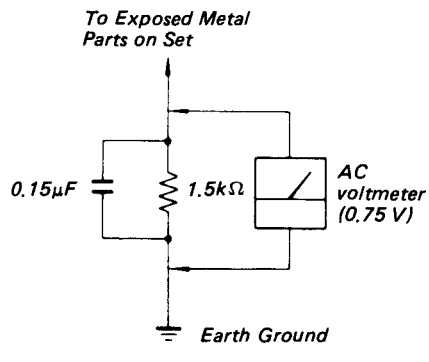
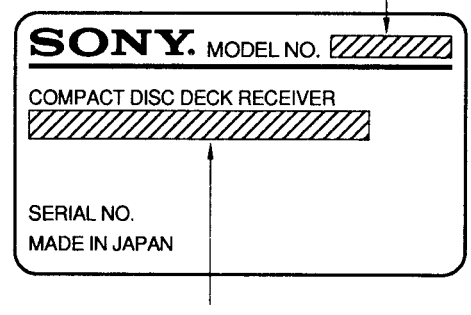


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

— Specification Labels —

AEP, Germany, Italian, E, East European,
Saudi Arabia, Australian, Malaysia,
Singapore, Tourist model : HCD-H61
US, Canadian, AEP, UK model : HCD-H61M



US, Canadian model : AC: 120V 60Hz
AEP, East European model : AC: 220—230V~50/60Hz
UK, Australian model : AC: 240V~50Hz
Germany, Italian model : AC: 220—230V~50Hz
E, Saudi Arabia, Malaysia,
Singapore, Tourist model : AC: 110—120/220—240V~50/60Hz

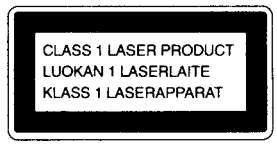
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

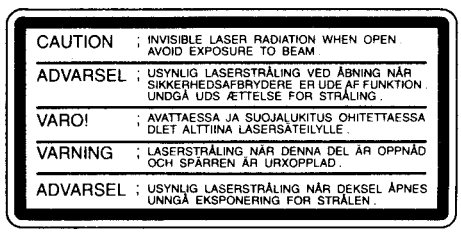
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.



This appliance is classified as a CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

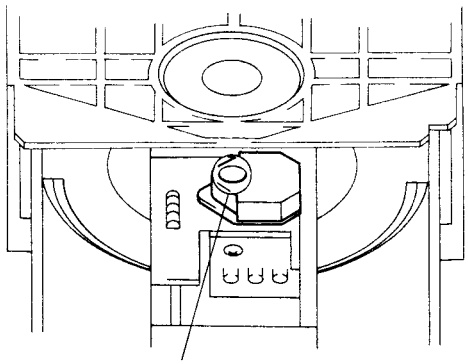
The following caution label is located inside the unit.



SECTION 1
SERVICING NOTES

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

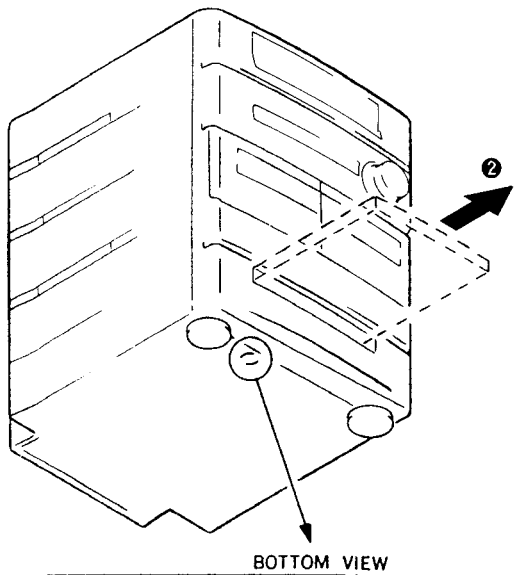
NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

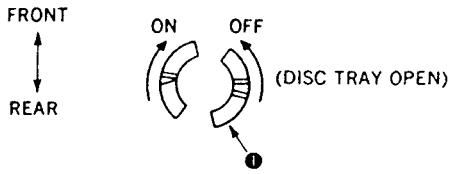
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



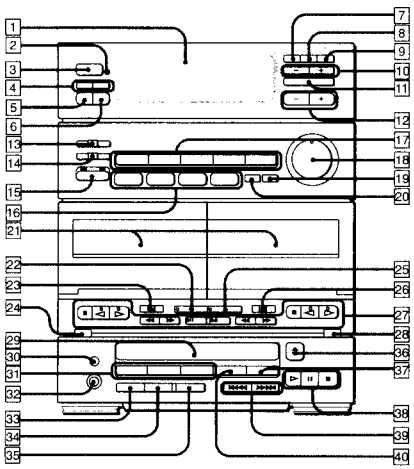


(1) Insert to ❶ for tapering driver, etc., and turn in the direction of arrow OFF. (Disc tray open)
(2) Tray as come out little of front panel, pull out in the direction of arrow ❷ by hand.

Parts Identification

Refer to the pages indicated in parenthesis for use of the buttons.

GB



Front Panel

Tuner Section

1 Display window
2 Remote sensor
3 POWER ON/STANDBY switch
4 CLOCK SET buttons (7)
TIMER SET button (7, 21)
CLOCK DISPLAY button (7)
5 TIMER CONT (control) button (22)
6 SLEEP button (22)
7 MEMORY/NEXT button (13, 22)
8 AUTO button (12)
9 MODE button (12)
10 TUNING –/+ buttons (12)
11 BAND button (12)
12 PRESET/TIMER –/+ buttons (13, 22)

Amplifier section

13 ECHO control (23) (*1)
14 MIC LEVEL control (23) (*1)
15 DBFB button and indicators (8)
16 Function selecting buttons and indicators
Pressing these buttons with the power turned off automatically turns on the power, and select the function.
17 MULTIPLEX buttons (*1)
STEREO button (23)
MAIN button and indicator (23)
SUB button and indicator (23)
KARAOKE PON button and indicator (23) (*1)
PRESET (Preset equalizer setting) button (15) (*1)
Preset equalizer setting buttons and indicators (15) (*2)
18 VOLUME control (8)
19 S-SUR (simulated surround) button and indicator(8)
20 DIRECT button and indicator (15)

Cassette deck section

21 Cassette holders
22 HIGH SPEED DUBBING button and indicator (16)
23 DIRECTION mode selector (13, 16)
24 ⏏ (eject) button (for deck A) (13)
25 CD SYNCHRO (synchronized) button and indicator (19, 20, 21)
26 DOLBY NR selector (13, 16)
27 Tape operating buttons (13 – 21)
▷: Forward play button and direction indicator, ◁: Reverse play button and direction indicator, ▶▶: Fast rightward and AMS* button, ◀◀: Fast leftward and AMS* button, ■: Stop button, ●REC: Record button and indicator (for deck B only), ❚❚ PAUSE: Pause button and indicator (for deck B only)
28 ⏏ (eject) button (for deck B) (16)

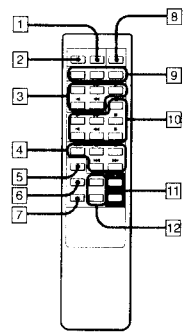
CD player section

29 Disc tray
30 MIX MIC jack (23) (*3)
31 PLAY MODE button
CONTINUE button (9, 10, 11)
SHUFFLE button (9, 10)
PROGRAM button (10, 11)
32 HEADPHONES jack (8)
33 CHECK button (10, 11)
34 CLEAR button (10, 11)
35 EDIT button (18, 20)
36 ⏏ OPEN/CLOSE button (8)
37 TIME button (8)
38 CD player operating buttons (8 – 11, 18 – 21)
▷: Play button, ❚❚: Pause button, ■: Stop button
39 ⏮◀◀/▶▶⏭ (manual search/AMS*) buttons (10, 11, 18, 20)
40 REPEAT button (9)

** AMS is the abbreviation of Automatic Music Sensor.*

Note:

*1: Only for E, Saudi Arabia, Australian, Malaysia, Singapore and Tourist models.
*2: Only for US, Canadian, AEP, Germany, Italian, East European and UK models.
*3: Except for AEP, Germany, Italian, East European and UK models.



Remote commander

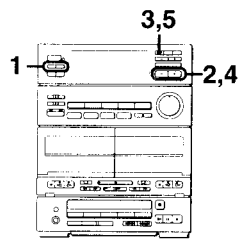
1 SLEEP button (22)
2 FUNCTION button
3 Deck A operating buttons
▶: Forward play button
◀: Reverse play button
▶▶: Fast rightward button
◀◀: Fast leftward button
■: Stop button
4 CD operating buttons
▶: Play button
⏮◀◀/▶▶⏭: AMS* buttons
❚❚: pause button
■: Stop button
5 DIRECT button (15)
6 PRESET button (15)
7 BASS/TREBLE selecting button (15)
8 SYSTEM POWER button
9 Tuner operating buttons
BAND button (12)
PRESET – buton (13)
PRESET + button (13)
10 Deck B operating buttons
▶: Forward play button
◀: Reverse play button
▶▶: Fast rightward button
◀◀: Fast leftward button
❚❚: pause button
■: Stop button
●REC: Record button
11 VOL (volume) +/– buttons (8)
12 BASS/TREBLE +/– buttons (15)

** AMS is the abbreviation of Automatic Music Sensor.*

Clock Setting

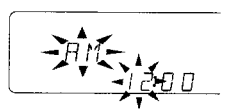
Setting the Clock

The built-in clock shows the time in the display. Set the clock correctly to enjoy timer-activated features (see pages 21 – 22).
The time is shown in 12-hour cycle.
AM 12:00 = Midnight
PM 12:00 = Noon

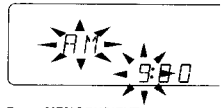


Example: Set to 9:25 in the morning.

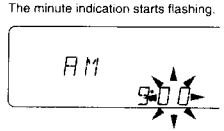
1 Press TIMER SET and CLOCK DISPLAY at the same time.
The hour indication starts flashing.



2 Set the hour with PRESET/TIMER – or +.

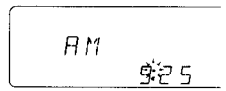


3 Press MEMORY/NEXT.
The minute indication starts flashing.



4 Set the minute with PRESET/TIMER – or +.

5 Press MEMORY/NEXT.
The clock starts running.



To change to the clock display from other displays
Press CLOCK DISPLAY.
The clock is displayed for about 4 seconds, then the clock display changes into the normal display.

When a power interruption occurs
The clock and timer settings are all erased, and "AM 12:00" will flash in the display.

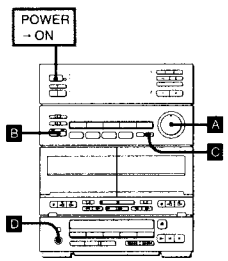
GB

SECTION 2 GENERAL

This section is extracted from instruction manual.

Audio Adjustment

GB



Volume Adjustment A

Turn VOLUME clockwise to increase the sound level, or counterclockwise to decrease it.
(Or press VOL + or – on the remote commander.)

Sound Quality Adjustment

To reinforce bass B
Press DBFB* so that the indicator lights up. Each time you press the button, bass reinforcement level changes cyclically as follows:

HIGH → NORMAL → OFF

To activate surround effect for stereo sound C
Press S-SUR** during a stereo sound reproduction so that the indicator lights up. This creates the atmosphere of a movie theater or concert hall. This function is not effective for a monaural sound.
If you connect the surround speakers (not supplied) to the SURROUND SPEAKERS jacks so that you can obtain the best possible surround effect.

**DBFB=Dynamic Bass Feedback*
***S-SUR=Simulated surround*

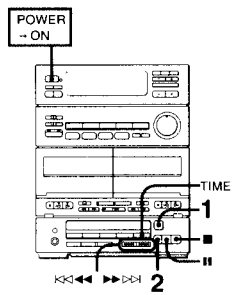
Personal Listening D

Connect headphones to HEADPHONES. No sound comes from the speakers.

CD Playing

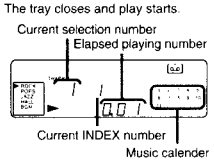
Playing the Entire Disc

Let's play from the first selection.



1 Press ⏏ OPEN/CLOSE to open the tray.
Place a disc with the printed side up.

2 Press ▷.
The tray closes and play starts.



To stop play
Press ■.

To stop for a moment during play
Press II.
To resume play, press it again or ▷.

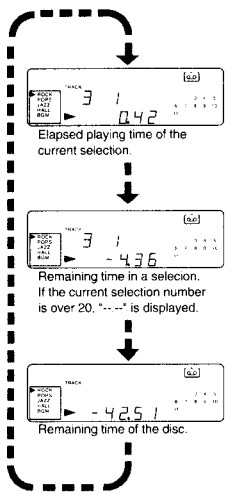
To stop play and open the tray
Press ⏏ OPEN/CLOSE.

Caution on adjusting volume
Do not turn up the volume while listening to a portion with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level portion is played.

To play an 8 cm (3-inch) CD
Place it on the inner circle of the tray. If the disc is provided with an adaptor, first remove it. Do not put a normal CD (12 cm/5-inch) on top of an 8 cm CD.

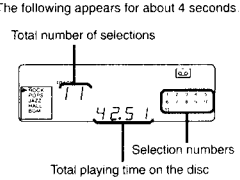
Information display

To change the time display
Press TIME during play.
The display changes to give you the following information



Note
You can also see the information above by pressing TIME during Shuffle, Delete, and Program Play; however, the remaining time is shown as "-- --" when the disc has more than 20 selections.

To display the total playing time of the disc
Press TIME in stop mode.
The following appears for about 4 seconds.



This information appears also when you close the tray by pressing ⏏ OPEN/CLOSE.

Locating a Particular Selection — Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection.

To locate the beginning of the current or preceding selection
Press ⏮⏮◀◀ (or ⏮◀◀ on the remote commander) as many times as required.

To locate the beginning of the succeeding selection
Press ▶▶▶▶⏭ (or ▶▶⏭ on the remote commander) as many times as required.

Locating a Particular Point in a Selection

You can locate any particular point in the selection. This function works during either play or pause. This operation is not possible with the remote commander.

To search while monitoring the sound
To move forward at high speed
keep ▶▶▷▷⏭ depressed and release it at the desired point.

To move backward at the high speed
keep ⏮◁◁◀◀ depressed and release it at the desired point.

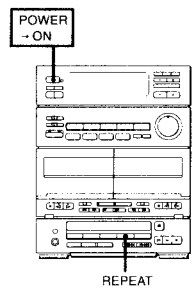
To search quickly
1 Press II to set the unit in pause mode.
2 Keep ⏮◁◁◀◀ or ▶▶▷▷⏭ depressed.
The search speed increases, but there is no sound. Find the desired point by observing the display and release the button.
3 Press II again or ▷ at the desired point to play.

One Touch Play

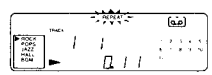
Press CD when the power is turned off.
If a disc has been inserted, you can listen to the disc without pressing any other buttons.
If not, you can turn on the system but cannot start play.

Playing Repeatedly — Repeat Play

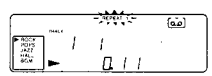
You can choose between two different repeat play modes. One repeats all the selections in the current mode; the other repeats any given selection.
This operation is not possible with the remote commander.



To repeat all the selections
Press REPEAT once during play so that "REPEAT" appears in the display.



To repeat a single selection
Press REPEAT twice while playing the desired selection so that "REPEAT 1" appears in the display.
(Operable only in normal play and delete play mode)



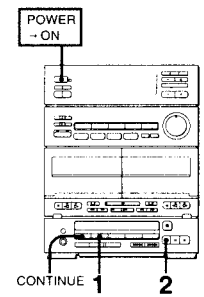
To cancel repeat play
Press REPEAT so that neither "REPEAT" nor "REPEAT 1" appears.

Note
Repeat play function works also during;
- *shuffle play*
- *delete play*
- *delete shuffle play*
- *program play.*

Multi-disc program play (see page 11) cannot be repeated.

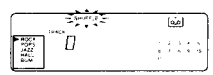
Playing in a Random Order — Shuffle Play

Shuffle play function plays all selections in a random order.
This operation is not possible with the remote commander.

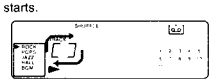


Make sure that CD is selected before going to the following steps.

1 Press SHUFFLE.
"SHUFFLE" appears in the display.



2 Press ▷.
"⇄" appears and then shuffle play starts.



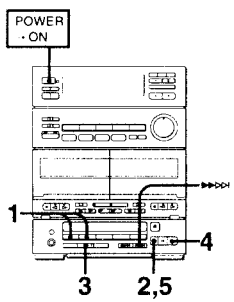
To stop playing
Press ■.

To cancel shuffle play
Press CONTINUE.
"SHUFFLE" disappears, and play continues in normal play mode.

GB

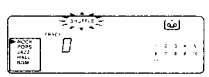
Playing Only the Desired Selections — Delete Play

You can delete unwanted selections and play the remaining selections either in normal or shuffle play mode.
This operation is not possible with the remote commander.

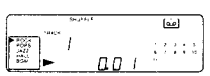


Make sure that CD is selected before going to the following steps.

1 Press SHUFFLE or CONTINUE.
"SHUFFLE" appears in the display only if you have pressed SHUFFLE; that is, the unit is now engaged in shuffle play mode.



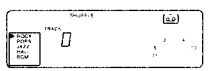
2 Press ▷.
Shuffle or normal play starts.



3 Press CLEAR while unwanted selections are being played.
The number of the selection and "OFF" appears in the display when the selection is deleted.

To skip selections
Press ▶▶▷▷| (or ▶▶| on the remote commander). These selections are just skipped but not deleted.

4 Press ■ after deleting all the unwanted selections.
All the selection numbers which you have not deleted appear in the display.

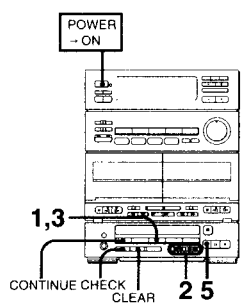


5 Press ▷.
- If "SHUFFLE" is displayed, the remaining selections are played in shuffle play mode. (Delete shuffle play)
- If "SHUFFLE" is not displayed, the remaining selections are played in normal play mode. (Delete play)

To restore all the selections you have deleted
Press ■ in stop mode.

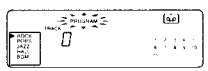
Playing in a Desired Order — Program Play

You can make a program by designating up to 24 selections in the order you want them to be played, while checking the total playing time.
This operation is not possible with the remote commander.

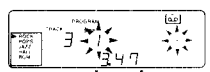


Make sure that CD is selected before going to the following steps.

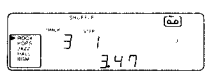
1 Press PROGRAM.
"PROGRAM" appears in the display.



2 Press |◁◁ ◀◀ or ▶▶ ▷▷| to choose a selection.
The total playing time is displayed. If it is satisfactory, go to the next step. If not, choose another selection instead.


Total playing time

3 Press PROGRAM while the selection number is flashing.
The selection is chosen and the selection number turns to light.



4 Repeat steps 2 and 3 to program other selections.

5 Press ▷.
All the programmed selections are played in the programmed order.

To program a pause
Press ❚❚.
"P" appears and the total playing time is reset to 0.00.

To stop play
Press ■.
To restart the same program play, press ▷.

To cancel the program play
Press CONTINUE.
The program is erased and the play continues in normal play mode.

To check the program
Press CHECK.
Each time you press CHECK, the number of the selection and the order to be played appear in the display. After the last selection is displayed, "END" appears in the display.

To erase a selection
1 Press CHECK so that the number of the selection you wish to erase appears in the music calendar. You cannot erase the selection being played.
2 Press CLEAR.

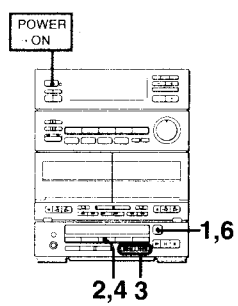
To erase the entire program
Press ■ once in stop mode; twice during play. The program is also erased when you turn off the system.

If "– –, – –" is displayed instead of the total playing time during programming or during play
- *You have programed a selection the number of which is over 20.*
- *The total time has exceeded 100 minutes.*

To check the remaining time during play
Press TIME once to see the remaining time of the selection being played; twice to see the total remaining time of the whole program; once more to return to the initial display. If you have inserted a pause, the display shows the remaining time until the pause.

Designating the Playing Order of Up to 6 Discs — Multi-disc Program

You can make a program by designating up to 24 selections from a maximum of 6 discs in the order you want them to be played. At the same time, you can adjust the total playing time of the program. This function is convenient for editing tapes from different discs.
This operation is not possible with the remote commander.



Make sure that CD is selected before going to the following steps.

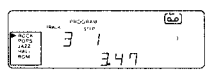
1 Press ⏏ OPEN/CLOSE and insert the first disc.

2 Press PROGRAM.
"PROGRAM" appears in the display.

3 Press |◁◁ ◀◀ or ▶▶ ▷▷| to choose a selection.
The total playing time is displayed. If it is satisfactory, go to the next step. If not, choose another selection instead.

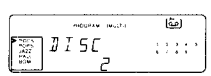

Total playing time

4 Press PROGRAM while the selection number is flashing.
The selection is chosen and the selection number turns to light.



5 Repeat steps 3 and 4 to program other selections from the first disc.

6 Press ⏏ OPEN/CLOSE and remove the first disc and insert the second disc.
"PROGRAM (MULTI)" and "DISC 2" appear in the display.



7 Repeat steps 3 though 6 to program other selections from other discs.
Up to 24 selections from a maximum of 6 discs can be programmed.
The total playing time for all selections appears in the display.

To play the program
Insert the first disc and press ▷.
When "DISC 2" appears in the display, replace the first disc with the second disc and press ▷. Continue replacing the discs until the last disc. When playing of the last disc is over, "DISC END" appears in the display. The unit returns to the initial standby condition of program play from the first disc.

To stop playing
Press ■.

To check the number of the disc inserted
Press TIME in stop mode.
The number of the disc appears.

To cancel the program play
Press CONTINUE.

To check the program
Press CHECK.
Each time you press CHECK, the number of the disc and the selection appear. After the last selection is displayed, "END" appears in the display.

To erase a selection from the end of the program
1 Insert the last disc.
2 Press CLEAR.
Each time you press CLEAR, the last selection is erased from the end of the program.
If you insert a pause in your program, you cannot erase the selections programmed before the pause.

To erase the entire program
Press ■ once in stop mode; twice during play.

Notes on multi-disc program
- *You cannot use the repeat play function.*
- *Do not insert a pause in your program when you want to use the CD SYNCHRO button.*

If "– –, – –" is displayed instead of the total playing time during programming or during play
- *You have programed a selection the number of which is over 20.*
- *The total time has exceeded 100 minutes.*

Notes on handing discs
- To keep the disc clean, handle the disc by its edge. Do not touch the surface.
- Do not stick paper or tape onto the disc.

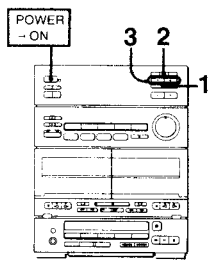
- Do not expose the disc to direct sunlight or heat sources such as a hot air duct, nor leave it in a car parked in direct sunlight as there can be a considerable rise in the temperature.
- After playing, store the disc in its case.

Radio

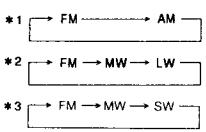
GB

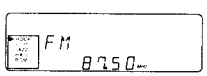
The automatic tuning enables you to find a station when its signal is strong enough. When the signal is too week, use the manual tuning.

Automatic Tuning

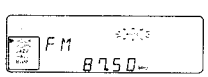


1 Press BAND repeatedly until the desired band appears.
As you press BAND, the band changes as follows:





2 Press AUTO so that "AUTO" appears in the display.



3 Press TUNING – or +.
Scanning starts, and then stops when a station is tuned in.

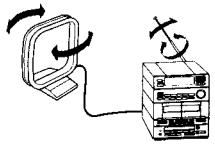
4 Repeat step 3 until the desired station is tuned in.

Indicator in the display

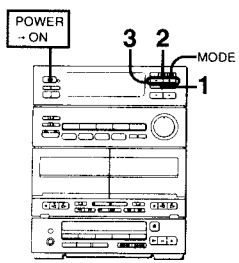
TUNED: Appears when a station with sufficient signal strength is tuned in.

STEREO: Appears when an FM stereo program with sufficient signal strength is received.

Antenna adustment
For FM reception, adjust the length and direction of the telescopic antenna (HCD-H61).
For AM (MW, LW and SW) reception, find the best location for the supplied AM loop antenna.

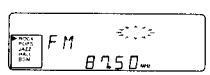


Manual Tuning

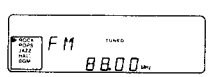


1 Press BAND repeatedly until the desired band appears.

2 Press AUTO so that "AUTO" disappears from the display.



3 Press TUNING - or + repeatedly until the desired station is tuned in.



When an FM program is noisy or hard to receive

Press MODE so that "MONO" appears in the display. There will be no stereo effect, but the reception will be improved.
Press the button again to restore the stereo effect.

Changing the MW Tuning Interval (Except for Midle Eastern, UK and East European models)

The MW tuning interval is preset at the factory to 9 kHz for E, Tourist and Australian models, and 10 kHz for US and Canadian models. If you use the system where the frequency allocation system is different from the preset interval, change the interval as follows:

1 Turn on the power.
2 Tune in any MW station.
3 Turn off the power.
4 Turn the power back on while pressing TUNING +.

To reset the interval, follow the same procedure.

Important
When the interval is changed, stored stations will be erased from the memory.

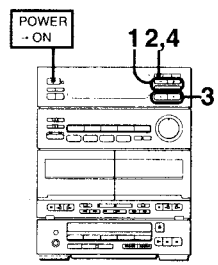
One Touch Play

Press TUNER when the power is turned off. You can listen to the last received station without pressing any other buttons.

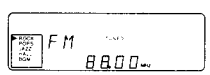
Note
*1: Only for US, Canadian, Italian and Germany models.
*2: Only for AEP, East European and UK models.
*3: Only for E, Saudi Arabia, Australian, Malaysia, Singapore and Tourist models.

Storing Stations

You can store up to 20 FM stations and 10 MW stations and 10 SW stations in a desired sequence, so that you can tune in the stored station directly by entering the preset station number.
This operation is not possible with the remote commander.

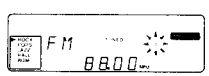


1 Press BAND and TUNING – or + to tune in the desired station.



2 Press MEMORY/NEXT.
MEMORY and the preset station numbers appear in the display.

3 While "MEMORY" is on (for about 4 seconds), press PRESET/TIMER – or + to select a desired preset number.



4 Press MEMORY/NEXT.
"MEMORY" disappears, and the station is stored in the preset number.

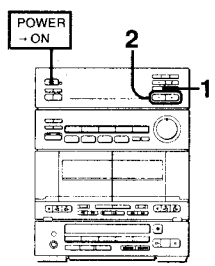
5 Repeat step 1 to 4 for each station to be stored.

If you cannot store a station successfully
Press MEMORY/NEXT again so that "MEMORY" appears, and then proceed with steps 3 and 4 above.
Be sure to operate while "MEMORY" is on. (about four seconds.)

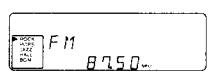
When you have selected the wrong preset station number
Press MEMORY/NEXT again and then proceed with steps 3 and 4.

To change the preset station
Store a desired station at the desired preset number by proceeding with the above steps. The station previously preset will be erased. Erasing only is not possible.

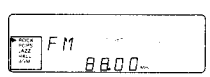
Tuning in a Preset Station



1 Press BAND to select a desired band.



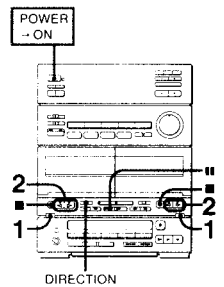
2 Press PRESET/TIMER – or + (or PRESET –/+ on the remote commander) to select the desired preset number.



Tape Playback

GB

Playback Operation



1 Press ≜ and insert a tape in deck A or B.

2 Press ▷ (for front side playback) or ◁ (for reverse side playback).
Playback starts.

To stop playback
Press ■.

To stop for a moment during play (Deck B only)
Press II PAUSE.
To resume play, press it again.

How to select the DIRECTION mode position
To playback one side: set it to →.
To play back both sides: set it to ↻. (The deck stops automatically after repeating the sequence 5 times.)
To playback both decks in succession: set it to RELAY. See "Playing Both Decks in Succession — Relay Play" on page 14.
The DIRECTION mode setting is effective for both decks.

If you play both decks at the same time
You hear the sound from deck A.

(to be continued)

Tape Playback (continued)

GB

(continued)

When listening to the tape recorded with the Dolby noise reduction system*

Set the DOLBY NR selector to ON. The setting is active for both decks. This system is provided with the Dolby B NR system.

What is the Dolby NR system?

Dolby NR (noise reduction) system reduces tape hiss noise in low-level high-frequency signals. The system boosts these signals during recording and lowers them during playback.

** Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
"DOLBY" and double-D symbol ⊡⊡ are trademarks of Dolby Laboratories Licensing Corporation.

One Touch Play

Press TAPE when the power is turned off. If a tape has been inserted, you can listen to the tape without pressing any other buttons. If not, you can turn on the system but cannot start playback.

Playing back Automatically after Fast Winding — Auto Play

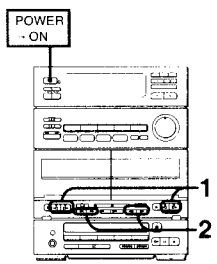
This function starts playback automatically from the beginning of the side after fast winding.

To start playback from the beginning of the front side
Press ▷ while keeping ◀◀ pressed.

To start playback from the beginning of the reverse side
Press ◁ while keeping ▶▶ pressed.

Locating the Beginning of a Selection during Playback — Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection by detecting the blank spaces between selections. To assure correct operation of the AMS, there must be a three-second blank or more between selections. By using the CD synchronized recording (Fade Edit, Time Edit, Just Edit, and Program Edit), you can make three-second blanks among recorded selections.



1 Press ▷ or ◁ to start playback.

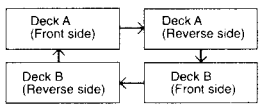
2 Press ▶▶ or ◀◀ referring to the following table.

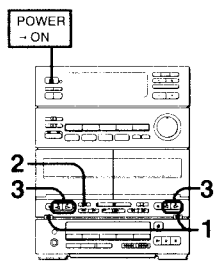
Side of the cassette being played	Desired selection	
	Next selection	Selection being played
Front side (▷)	▶▶	◀◀
Reverse side (◁)	◀◀	▶▶

Notes:
- *AMS does not function on both decks at the same time.*
- *AMS does not function while the other deck is being played.*

Playing Both Decks in Succession — Relay Play

Relay play always follows the sequence below regardless of where playback starts. When playback of the reverse side of the tape in deck B is over, the following sequence continues 4 more times.





1 Press ≜ and insert recorded tapes in both decks.

2 Set the DIRECTION mode selector to RELAY.

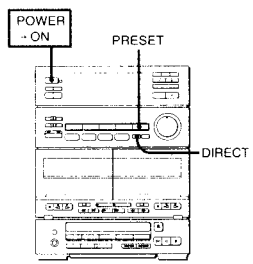
3 Press ▷ or ◁ on either deck.

To stop relay play
Press ■ on the playing deck.

Using the Graphic Equalizer

Making Use of the Preset Equalizer Settings

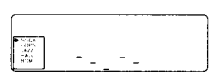
When the system is shipped from the factory, five specially recommended settings of the graphic equalizer are stored. You can enjoy the effect of the equalizer by simply choosing from these five preset settings according to the program source.



Press PRESET to select the preset equalizer setting, referring to the table as shown below.

Display	Applications
1 ROCK	For rock
2 POPS	Vocal sound is intensified.
3 JAZZ	For jazz
4 HALL	For orchestral music
5 BGM	For background music

When you select a setting, the display shows the equalizer curve as shown below.

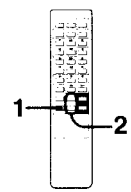


When you do not want to apply the equalizer effect
Press DIRECT so that "DIRECT" appears in the display and the indicator lights up.

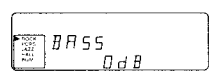
Adjusting the Bass and Treble Sound

This function allows you to adjust the sound by raising and lowering the level of bass and/or treble sound.
This operation is possible only with the remote commander.

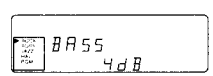
Note:
You cannot store the sound adjusted with BASS and TREBLE.



1 Press BASS/TREBLE so that "BASS" or "TRE" appears with the decibel indication in the display.
Each time you press the button, the display switches to show cyclically "BASS" or "TRE." Select "BASS" to adjust lower frequency ranges and "TRE" to adjust higher frequency ranges.



2 Press BASS/TREBLE + or – to adjust the level.
BASS/TREBLE +: Increase the decibel indication to enhance the level.
BASS/TREBLE –: Decrease the decibel indication to reduce the level.



To confirm the effect of the adjustment (This is not possible if you adjust the bass/treble effect while the DIRECT indicator is on)
Press DIRECT.
You can compare the difference between the adjusted sound (the DIRECT indicator is off) and no equalizer and bass/ treble effect sound (the DIRECT indicator is on).

GB

Recording

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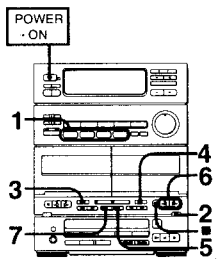
Recording Operation (Deck B)

Use TYPE I (normal) or TYPE II (CrO2) tapes for recording.



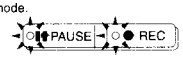
1 Select a program source you want to record with the function selecting buttons.

2 Press ≙ and insert a blank tape into deck B.

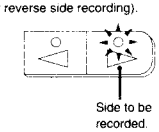
3 Set the DIRECTION mode selector.
To record one side, set it to ▭.
To record both sides, set it to ⟲.

4 Set to DOLBY NR switch to ON or OFF.

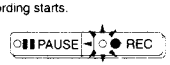
5 Press ● REC.
Deck B enters the recording pause mode.



6 If the desired direction indicator is not lighted, select the side to be recorded.
Press ▷ (for front side recording) or ◁ (for reverse side recording).



7 Press ▮▮ PAUSE.
Recording pause mode is released and recording starts.



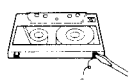
8 Play the source selected in step 1.

To stop recording
Press ■.

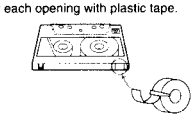
Notes:
- *Even if you set the DIRECTION mode selector to ⟲, recording stops at the end of the reverse side. To record on both sides, be sure to start with the front side.*
- *The recording level is fixed and cannot be adjusted manually.*
- *Equalizer effect cannot be recorded.*

Notes on Cassettes

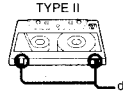
To protect the recording
Break off the tab on the left shoulder on the cassette side of which recording is to be protected.



To re-record the cassette
Cover each opening with plastic tape.



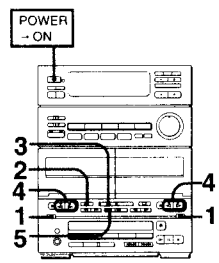
When using a type II (CrO_2) cassette, be careful not to cover the detector slots which are necessary for automatic tape type detection.



Tape Dubbing

Dubbing the Whole Tape at High Speed

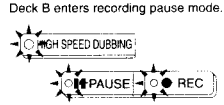
This operation is not possible with the remote commander.



1 Press ≙, and insert a recorded tape in deck A and a blank tape in deck B.

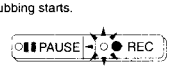
2 Set the DIRECTION mode selector.
To dub on one side: set it to ▭.
To dub on both sides: set it to ⟲ or RELAY.
(See "DIRECTION mode setting" on the next page.)

3 Press HIGH SPEED DUBBING.
Deck B enters recording pause mode.



4 Choose the same direction on both decks by pressing ▷ or ◁.
To dub on one side, choose ▷ or ◁.
To dub on both sides, choose ▷.

5 Press ▮▮ PAUSE.
Dubbing starts.



To stop dubbing
Press ■ on deck B.

DIRECTION mode setting

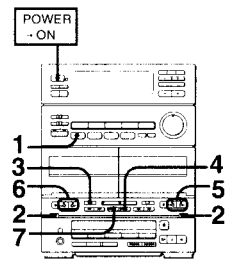
Position	Operation
▭	Dubbing stops at the end of the tape.
⟲	When the tape in one deck comes to its end of the front side, it reverses immediately regardless of the tape position in the other deck.
RELAY	When the tape in one deck reaches its end of the front side, it stops until the other tape come to its end, and then both tape reverse together.

When dubbing starts from the reverse side in RELAY mode
At the end of the reverse side, dubbing stops automatically.

Is it necessary to set DOLBY NR?
No. The tape in deck B is automatically recorded in the same state as the tape in deck A.

If the indicator on the HIGH SPEED DUBBING button flashes 3 times and disappears
The tab(s) of the cassette inserted into deck B has (have) been removed. Dubbing is not possible on that cassette. Cover the opening with plastic tape.

Manual Dubbing

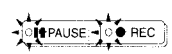


1 Press TAPE (or FUNCTION repeatedly on the remote commander).
"TAPE" appears in the display.

2 Press ≙ and insert a recorded tape in deck A and a blank tape in deck B.

3 Set the DIRECTION mode selector.
To dub on only one side, set it to ▭.
To dub on both sides, set it to ⟲.

4 Press ● REC.
Deck B enters recording pause mode.



5 If the desired direction indicator is not lighted, select the side to be recorded on the deck B.
Press ▷ (for front side recording) or ◁ (for reverse side recording).

6 Press ▷ or ◁ on deck A.
Playback starts.

7 Press ▮▮ PAUSE.
Normal speed dubbing starts.

To stop dubbing
Press ■ on both decks.

Is it necessary to set DOLBY NR?
No. The tape in deck B is automatically recording in the same state as the tape in deck A.

Is it possible to listen to program sources other than tape during dubbing?
During high speed dubbing, yes. Any program source can be selected.
During manual dubbing, no. The source changes to the selected function and the tape playback cannot be dubbed.

GB

CD Recording

GB

Fading Out at the Designated Time — Time Fade

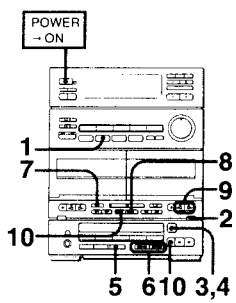
You can have the disc play fade out at the end by designating the playing time so that the selection at the end of the tape fades out naturally without breaking abruptly in the middle.

How Time Fade functions

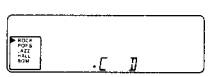
Deck B records the selections in the order they appear on the disc. Five seconds before the designated time, the recording level falls gradually. At the designated time, the recording ends and the CD player enters pause mode. This function works for both sides of the tape by designating the time once. This function works also during repeat, shuffle, and program play.

Time Fade operation

This operation is not possible with the remote commander.



1 Press CD.
"CD" appears in the display.



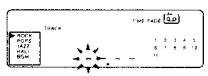
2 Press ≙ and insert a blank tape into deck B.

3 Press ≙ OPEN/CLOSE and place a disc.

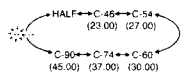
4 Press ≙ OPEN/CLOSE again to close the tray.

Note:
Make sure that the total number of selections and the total playing time appear in the display.

5 Press EDIT three times.
"TIME FADE" appears in the display.



6 Press |◁◁/◀◀ or ▶▶/▷▷| to designate the tape length.
You can use a 46-, 54-, 60-, 74-, or 90-minute cassette tape. As you press these buttons, the minute display changes as follows:



When you choose "HALF"
The CD player fades out after playing just the half of the total playing time of the disc.

7 Set the DIRECTION mode selector.
To record on one side, set it to ⇀.
To record on both sides, set it to ⇄.

8 Press ● REC.
Deck B enters recording pause mode.

9 If the desired direction indicator on play button is not lighted, select the side to be recorded on deck B.
Press ▷ (for front side recording) or ◁ (for reverse side recording)

10 Press II PAUSE on deck B and ▷ on the CD player.
Recording pause mode is released, CD playing starts, and recording starts.

To stop recording

Press ■ on deck B and ■ on the CD player.

When playback ends

The CD player fades out and enters pause mode at the designated time.
"TIME FADE B" appears in the display. Deck B reverses automatically if you set the DIRECTION mode selector to ⇄.

If you also want to record on the reverse side of the cassette, press ▷ on the CD player after the tape reverses.
When recording on the reverse side fades out and ends, the CD player enters the pause mode and the Time Fade is canceled.

To cancel Time Fade

During stop, press EDIT so that "TIME FADE" disappears.

When the playback of the disc ends during Time Fade.
Time Fade is still active. If you place another disc, the recording can be continued and will fade out when the total playing time of the discs reaches the designated time.

To check the remaining time during Time Fade
When you press TIME twice, the remaining time until the designated time is displayed.

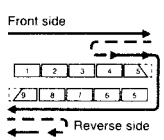
If you press |◁◁/◀◀ or ▶▶/▷▷|
Time Fade will be canceled.

Recording the Entire Program on a Disc — Fade Edit

CD program playback and tape recording start simultaneously due to the Synchronized Start function. The selection at the end of the tape does not break abruptly in the middle, but fades out automatically (Fade Edit).
By recording with Fade Edit, you can make three-second blanks among the selections on the recorded tape.

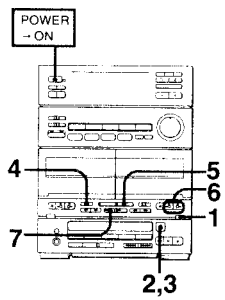
How Fade Edit functions

Deck B records the selections in the order on the disc. If the tape ends in the middle of the selection, deck B rewinds the tape to the beginning of that selection. Then the selection is recorded so that it fades out naturally at the end of the tape.
If the recording is to be continued to the reverse side, the selection that has faded out on the front side is recorded again from the beginning on the reverse side.



Fade Edit operation

This operation is not possible with the remote commander.



1 Press ≙ and insert a blank tape into deck B.

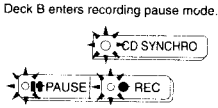
2 Press ≙ OPEN/CLOSE and place a disc .

3 Press ≙ OPEN/CLOSE again to close the tray.

Note:
Make sure that the total number of selections and the total playing time appear in the display.

4 Set the DIRECTION mode selector.
To record on one side, set it to ⇀.
To record on both sides, set it to ⇄.

5 Press CD SYNCHRO.
Deck B enters recording pause mode.



6 If the desired direction indicator on play button is not lighted, select the side to be recorded by pressing ▷ or ◁.
To record on the front side or on both sides, press ▷.
To record only on the reverse side, press ◁.

7 Press II PAUSE.
The recording starts. After about 10 seconds, the CD playback starts.

To stop recording

Press ■ on deck B or ■ on the CD player.

Note:
When the tab on the cassette has been removed, the CD SYNCHRO button does not operate.

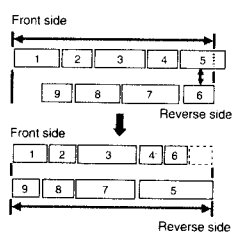
Is it possible to listen to program sources other than CD during CD recording?
No. If you select another function, the CD play stops and the selected function will be recorded.

Editing the CD for Recording

The CD player automatically edits the selections on a disc according to the tape length. There are two ways of editing: Time Edit and Just Edit.
By recording with Time Edit and Just Edit, you can make three-seconds blanks among the selections on the recorded tape.

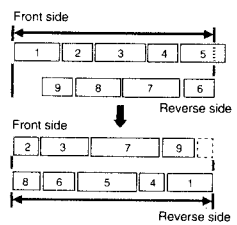
How Time Edit functions

The CD player selects the selections so that the total recording time of the selections is within the designated tape length and so that the order of the selections changes as little as possible. This function is convenient when you know the available recording length of the tape.
The CD player selects the selections from the first one in the disc, summing up each playing time. When the total playing time exceeds the designated tape length, the last selection is eliminated and replaced with another selection which is not longer than the remaining time. The eliminated selection is recorded on the reverse side. If you do not want to miss recording some specific selections, you can select them beforehand.



How Just Edit functions

The CD player chooses the selections so that the total recording time of the selections is within the designated tape length and so that you can record as many selections as possible by changing the order of the selections. This function is convenient when you want to record as many selections as possible.
The CD player selects the selections so that the total playing time best fits length of side A. Then the player selects from the remaining selections to record on side B. If you do not want to miss recording specific selections, you can select them beforehand.



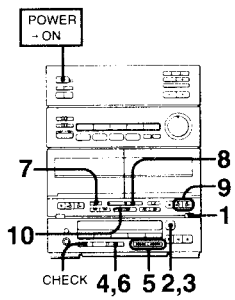
Note:
You can edit only the selections from selection numbers 1 to 20 in the disc using Time Edit and Just Edit.

GB

CD Recording (continued)

GB

Time Edit and Just Edit operations
This operation is not possible with the remote commander.



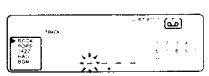
1 Press ≙ and insert a blank tape into deck B.

2 Press ⏏ OPEN/CLOSE and place a disc.

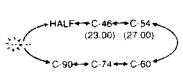
3 Press ⏏ OPEN/CLOSE to close the tray.

Note:
Make sure that the total number of selections and the total playing time appear in the display.

4 Press EDIT and display "EDIT" (Time Edit) or "JUST EDIT".
To choose Time Edit, press EDIT once.
To choose Just Edit, press EDIT twice.



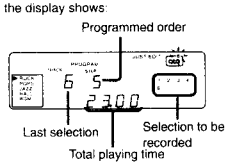
5 Press ⏮◀◀ or ▶▶⏭ to designate the tape length.
You can use a 46-, 54-, 60-, 74-, or 90-minute cassette tape. As you press these buttons, the minute display changes as follows:



When you choose "HALF" during Time Edit
The CD player divides the selections in the disc between side A and side B without changing their order and plays them so that no selection is left out of the recording.

When you choose "HALF" during Just Edit
The CD player programs the selections by changing their order so that the recording time on one side of the tape is half the total playing time. However, the program of side A may be a little longer than that of side B because the CD player distributes all the selections of the entire disc.

6 Press EDIT.
The selections to be recorded on one side are determined automatically. Then the display shows:

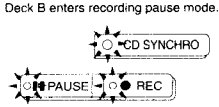


For recording on both sides
Press EDIT again.
The selections to be recorded on the other side are determined.

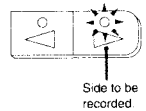
To add selections (Link function)
If there is remaining time even after programming all the selections on the disc, "LINK" and the selection numbers that can be recorded within the remaining time flash in the display. You can add these selections to the program. When you want to record the selections of another disc, replace the disc. The selection numbers that can be recorded flash in the same way.
- Press EDIT.
  All the selections that can be recorded are programmed.

7 Set the DIRECTION mode selector.
To record on one side, set it to ⇀.
To record on both sides, set it to ⇄.

8 Press CD SYNCHRO.
Deck B enters recording pause mode.



9 If the desired direction indicator on play button is not lighted, select the side to be recorded by pressing ▷ or ◁ on deck B.
To record on the front side or on both sides, press ▷.
To record only on the reverse side, press ◁.



10 Press ⏸ PAUSE.
The recording starts. After about 10 seconds, the CD playback starts.

To stop recording
Press ■ on deck B or ■ on the CD player.

To select the desired selections beforehand
You can place priority on some selections to be recorded by selecting them first using the program function of the CD player (see page 10) before performing Time Edit or Just Edit.

To check the program
Press CHECK.
In the display window, "A" appears while checking the program for side A, and "B" appears while checking the program for side B.

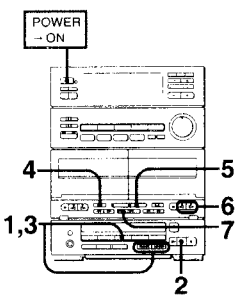
Notes:
- *Time Edit and Just Edit do not function when you program more than 20 selections on one disc.*
- *Do not press any other buttons than those mentioned in the procedure during Time Edit or Just Edit.*
- *When the tab on the cassette has been removed, the CD SYNCHRO button does not operate.*

If it takes time for programming during Just Edit
For some discs with many selections, it may take a while for programming. In this case, press ■. Programming procedure is stopped, but you can get the program though the program length is not the same as you have designated.

To use the CD synchronized recording function with more than one disc
Use the multi-disc program function (page 11). Press CD SYNCHRO and ⏸ PAUSE each time you change the disc.

Programming the Selections while Checking the Total Playing time — Program Edit

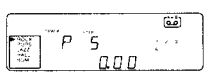
You can adjust the total playing time to the tape length while making a program.
By recording with Program Edit, you can make three-second blanks among the selections on the recorded tape.



1 Program desired selections for side A. (See page 10, "Playing in a Desired Order — Program Play.")

Note:
Make sure that "A" is lit in the display.

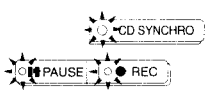
2 Press ⏸ on the CD player
"P" appears in the display and the total playing time is reset to 0. "B" lights up.



3 Program desired selections for side B. (See page 10, "Playing in a Desired Order — Program Play.")

4 Set the DIRECTION mode selector.
To record on one side, set it to ⇀.
To record on both sides, set it to ⇄.

5 Press CD SYNCHRO.
Deck B enters recording pause mode.



6 Select the side to be recorded by pressing ▷ or ◁ on deck B.
To record on the front side or on both sides, press ▷.
To record only on the reverse side, press ◁.

7 Press ⏸ PAUSE on deck B.
The recording starts. About 10 seconds, the CD playback starts.

To stop recording
Press ■ on deck B or ■ on the CD player.

Note:
Be sure to program the selections so that the total playing time of each side does not exceed the tape length of one side.

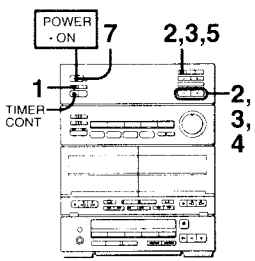
Timer-Activated Operation

GB

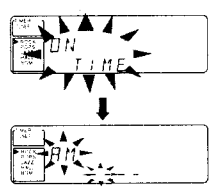
The power can be turned on and off automatically so that you can record a radio program while you are out, wake up to music, etc.. The preset timer-on and -off time remain until you reset them or you disconnect the power cord. So, you do not have to set the timer every day to wake up to music. (However, the timer setting for recording a radio program is good for only once.)

Before setting the timer
- Make sure the clock is set correctly. (See page 7.)
- If you want to record a radio program, be sure to insert a tape long enough.

Setting the Timer



1 Press TIMER SET.
"ON TIME" appears and the hour digits flash in the display.

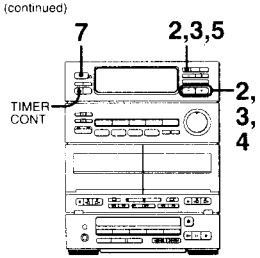


(to be continued)

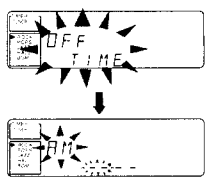
Timer-Activated Operation (continued)

GB

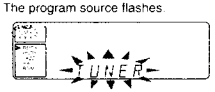
(continued)



2 Set the hour and minute of the timer-on time by pressing PRESET/TIMER – or +, and MEMORY/NEXT.
"OFF TIME" appears and the hour digits flash again.



3 Set the hour and minute of the timer-off time by pressing PRESET/TIMER – or +, and MEMORY/NEXT.
The program source flashes.



4 Select the program source by pressing PRESET/TIMER – or +.
As you press the button (– or +), the source changes as follows:

→TUNER←→TUNER REC←
→TAPE PLAY←→ CD PLAY←

To listen to the radio:
1) **Press MEMORY/NEXT. The frequency display appears.**
2) **Press BAND to select the desired band.**
3) **Press PRESET/TIMER – or + to select the desired station.**

To record a radio program
1) **Press MEMORY/NEXT. The frequency display appears.**
2) **Press BAND to select the desired band.**
3) **Press PRESET/TIMER – or + to select the desired station.**
4) **Insert a tape in deck B.**
5) **Set the DIRECTION mode selector correctly.**
To record on one side, set it to →.
To record on both sides, set it to ⇄.

To listen to a tape: go to step 5.

To listen to CD:
1) **Press MEMORY/NEXT. The selection number display appears.**
2) **Press PRESET/TIMER – or + to choose the desired selection. (Only from selection numbers 1 to 20)**

5 Press MEMORY/NEXT.
The preset items appear sequentially.

6 Prepare the program source by inserting a disc or a tape.
- For listening to the radio:
  You have nothing to do in this step.
- For listening to a tape:
  Insert the tape in deck A or B.
- For listening to CD
  Insert a disc.

7 Press POWER to turn off the system.
At the timer-on time, the system turns on automatically.
If you set the timer for TUNER REC in step 4, the VOLUME control automatically turns to MIN soon after the power is turned on at the timer-on time.

Note
Timer setting is possible when the power is turned off; however, it is necessary to turn on the power for inserting a disc.

To change timer settings

1 Press TIMER SET.
The timer-on hour flashes.
2 Press MEMORY/NEXT until the item to be changed flashes.
3 Press PRESET/TIMER – or + to change the item to the desired one.
4 Press MEMORY/NEXT until the timer-on time appears.
The display, then shows the preset items sequentially, and return to the previous display.

When you do not want to operate the timer

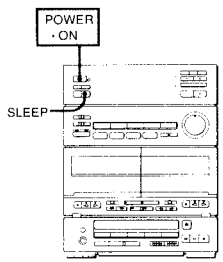
Press TIMER CONT (control) so that "TIMER" disappears from the display.
To reactivate the timer, press TIMER CONT to display "TIMER."

When the power is already on at the preset time
The function will be automatically changed to the preset one, even if you are playing a program of another function.

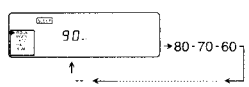
On the recording side of a tape during timer recording.
Playback or recording always starts from the front side. When you want to record on one side, be sure that the side you want to record on is facing you when you insert it.

Sleep Timer Operation

By setting the sleep timer, the system power can be turned off after the preset duration (up to 90 minutes).



Press SLEEP during play to select the desired duration in minutes.
As you press SLEEP, the indication changes as follows:



To disengage the sleep timer

Set the timer to "– –".

To turn off the system before the system is turned off by the sleep timer

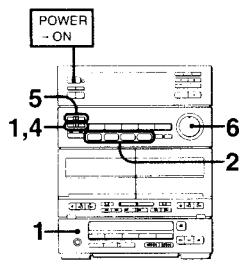
Press POWER.

To check the remaining time before the sleep timer turns off the system
Press SLEEP once, and the remaining time appears in minutes. The display returns to the previous indication automatically after several seconds.

(*2)

Microphone Mixing

Mixing Operation



(*1) **1 Slide the MIC LEVEL control to the MIN position to turn down the microphone control level and connect a microphone to the MIX MIC jack.**

2 Press one of the function selecting buttons (or FUNCTION repeatedly on the remote commander) to select program source and play it.

3 Sing or speak into the microphone.

(*1) **4 Slide the MIC LEVEL control to the right to adjust microphone level.**

(*1) **5 Slide the ECHO control to adjust echo level.**

6 Adjust the VOLUME control.

When the mixing is over (*1)

Be sure to disconnect the microphone and set the microphone level to the minimum level with the MIC LEVEL control.

Recording the sound mixed with a source

1 Mix the sound as described above.
2 Insert a tape in deck B.
3 Start recording.

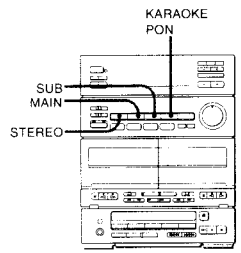
Recording from the microphone only

1 Press CD (or FUNCTION repeatedly on the remote commander) to select the CD player. If a CD is being played, press ■ to stop playing.
2 Start recording.

To stop howling (acoustic feedback)
Placing the microphone too close to the speakers may cause howling. Move the microphone away from the speakers or change the direction it faces.

(*1)

Singing Along



Reducing the Vocals of a CD — Vocal Reduction

You can sing with any desired stereo CD by pressing KARAOKE PON which minimizes the singer's voice.

To reduce the vocal

Press KARAOKE PON so that the indicator turns on.

To cancel the vocal reduction

Press the button again so that the indicator turns off.

Notes on the vocal reduction
- *Utilize stereo recorded sources. Not only would the singer's voice be reduced, but instrumental sounds may also be reduced with monaural recorded sources.*
- *The singers's voice may not be reduced completely for the following.*
  – *Stereo recorded sources containing only few instruments*
  – *Duet*
  – *Sources with strong echoes and chorus*
  – *Sources with singer's voice deviating from the center*
  – *Sources with singer's voice with extreme soprano or tenor*
- *When vocal reduction is used, the play sound will be monaural.*
- *Vocal reduction is canceled if you press MAIN or SUB while playing a multiplex tape.*

Singing Along with Multiplex Tapes

GB

This feature can be made use of when you enjoy singing along with microphone connected to the system, while playing back a multiplex tape.

To sing along with a multiplex tape

Press either MAIN or SUB according to your multiplex tape.
You can choose from:
- hearing only the instrumental music, or
- hearing only the singer's voice in the tape, along with your voice through the microphone.

To hear both channel sounds

Press STEREO.

Note
This function is not used at the same time with vocal reduction (KARAOKE PON).

What is a multiplex tape?
Instrumental music and vocals were recorded separately on the right channel and on the left channel. Therefore, when playing back a tape instrumental music comes from one speaker and vocals come from the other speaker separately.

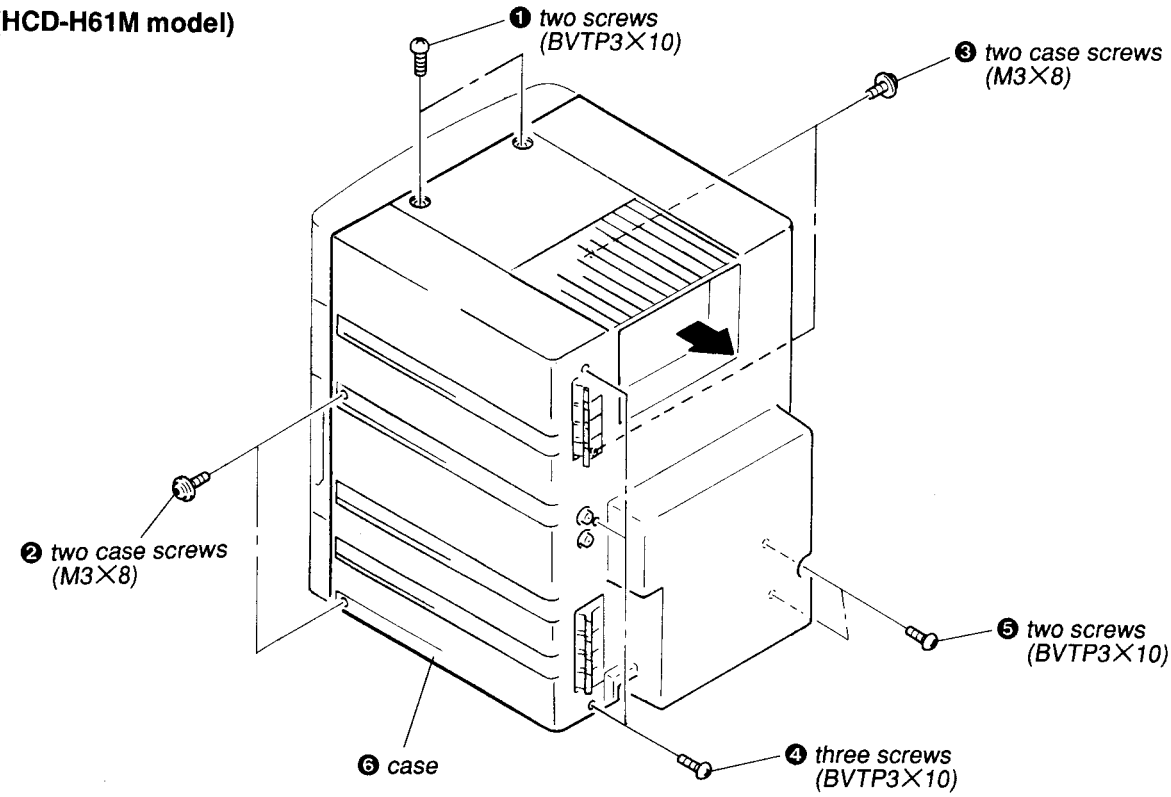
Note
*1: Only for E, Saudi Arabia, Australian, Malaysia, Singapore and Tourist models.
*2: Except for AEP, Germany, Italian, East European and UK models.

SECTION 3
DISASSEMBLY

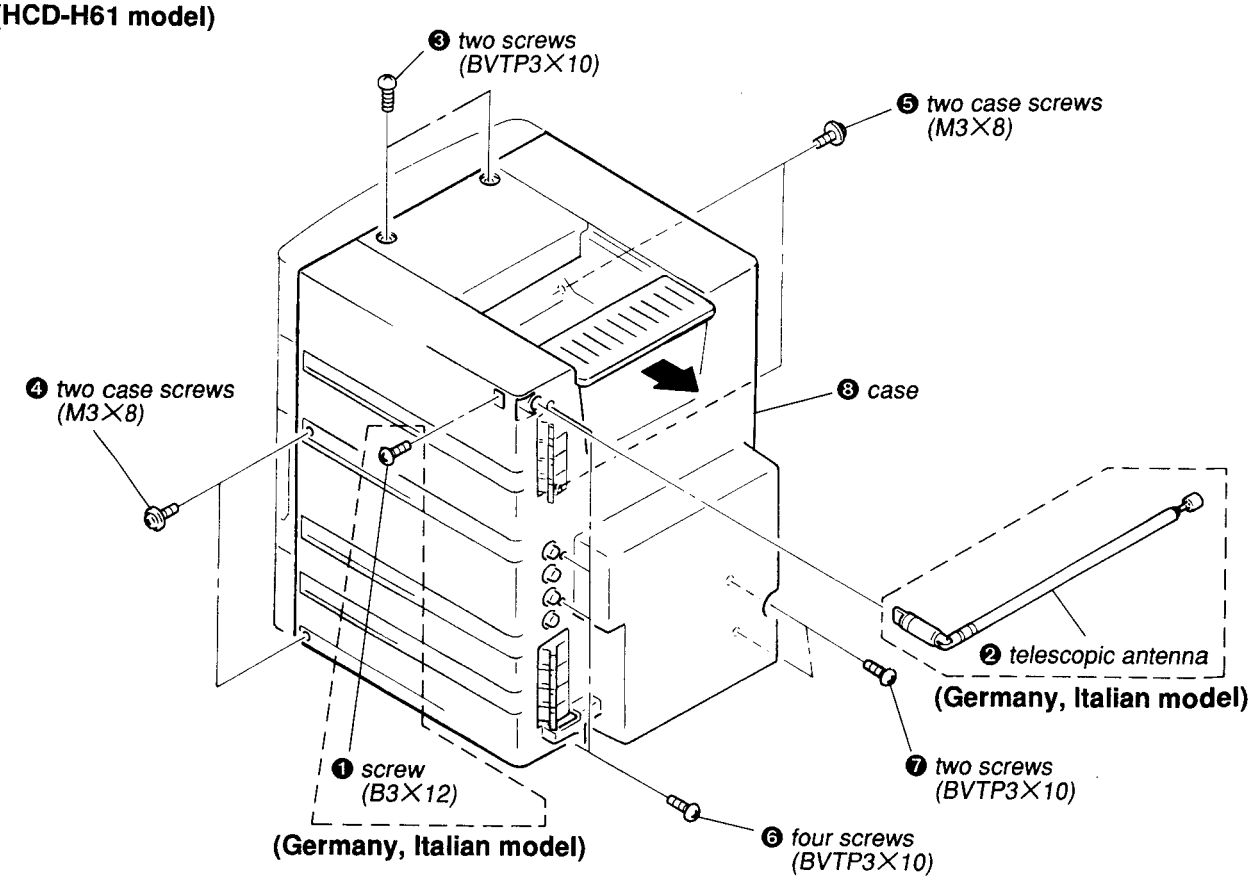
NOTE: Follow the disassembly procedure in the numerical order given.

3-1. CASE REMOVAL

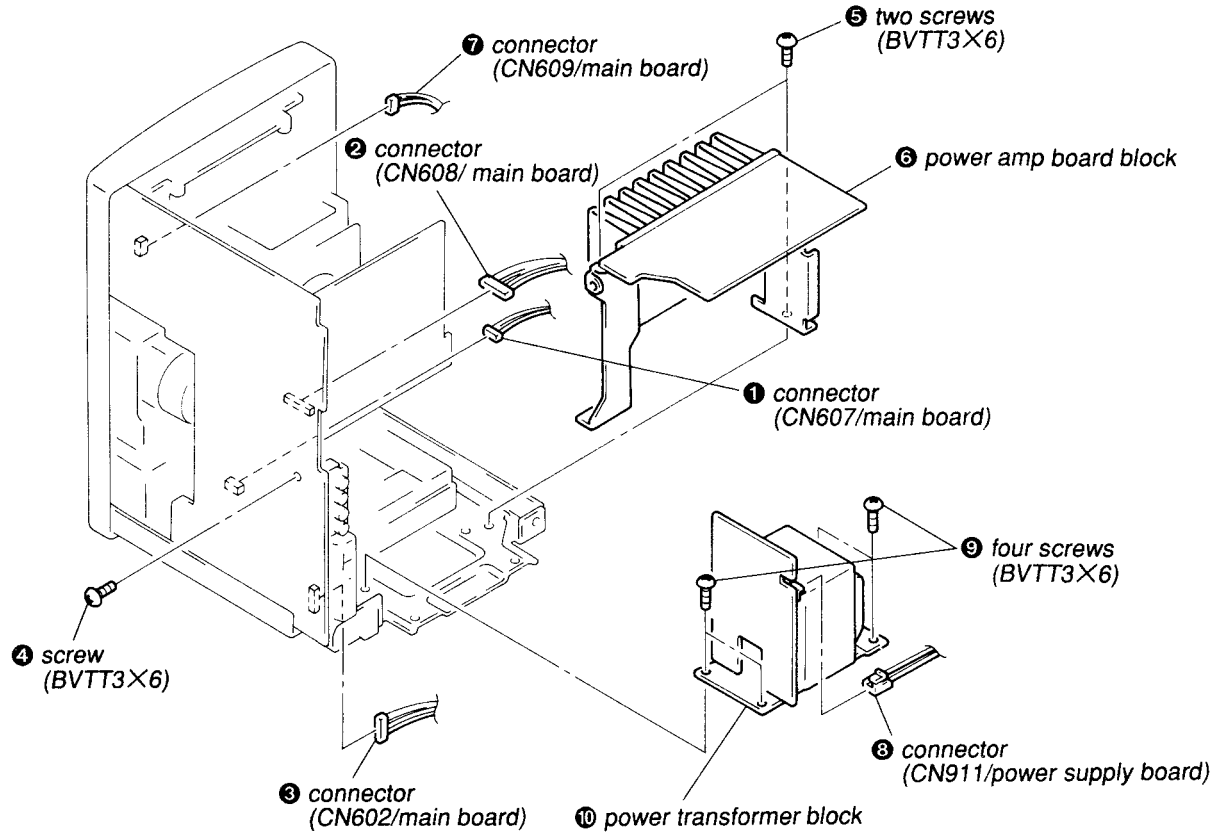
(HCD-H61M model)



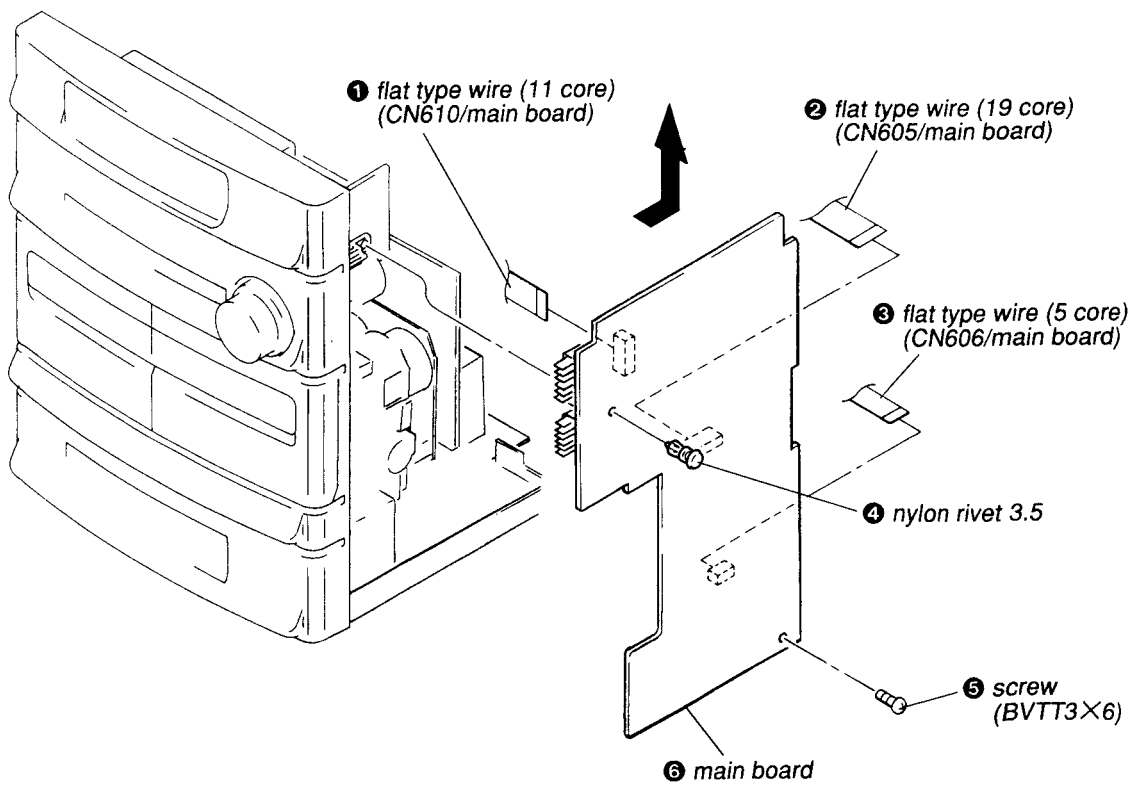
(HCD-H61 model)



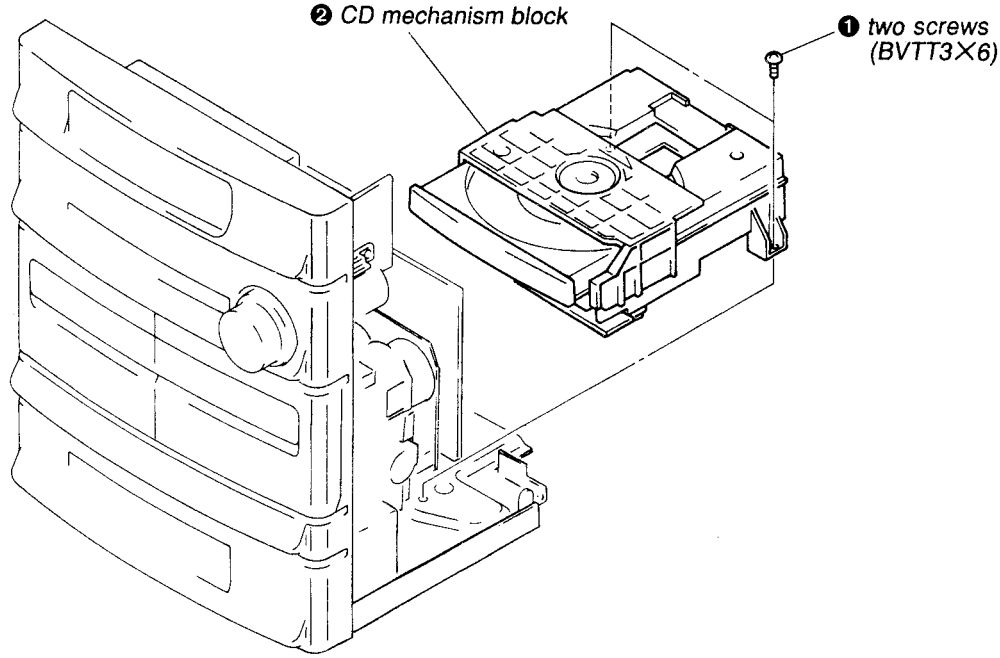
3-2. POWER BLOCK REMOVAL



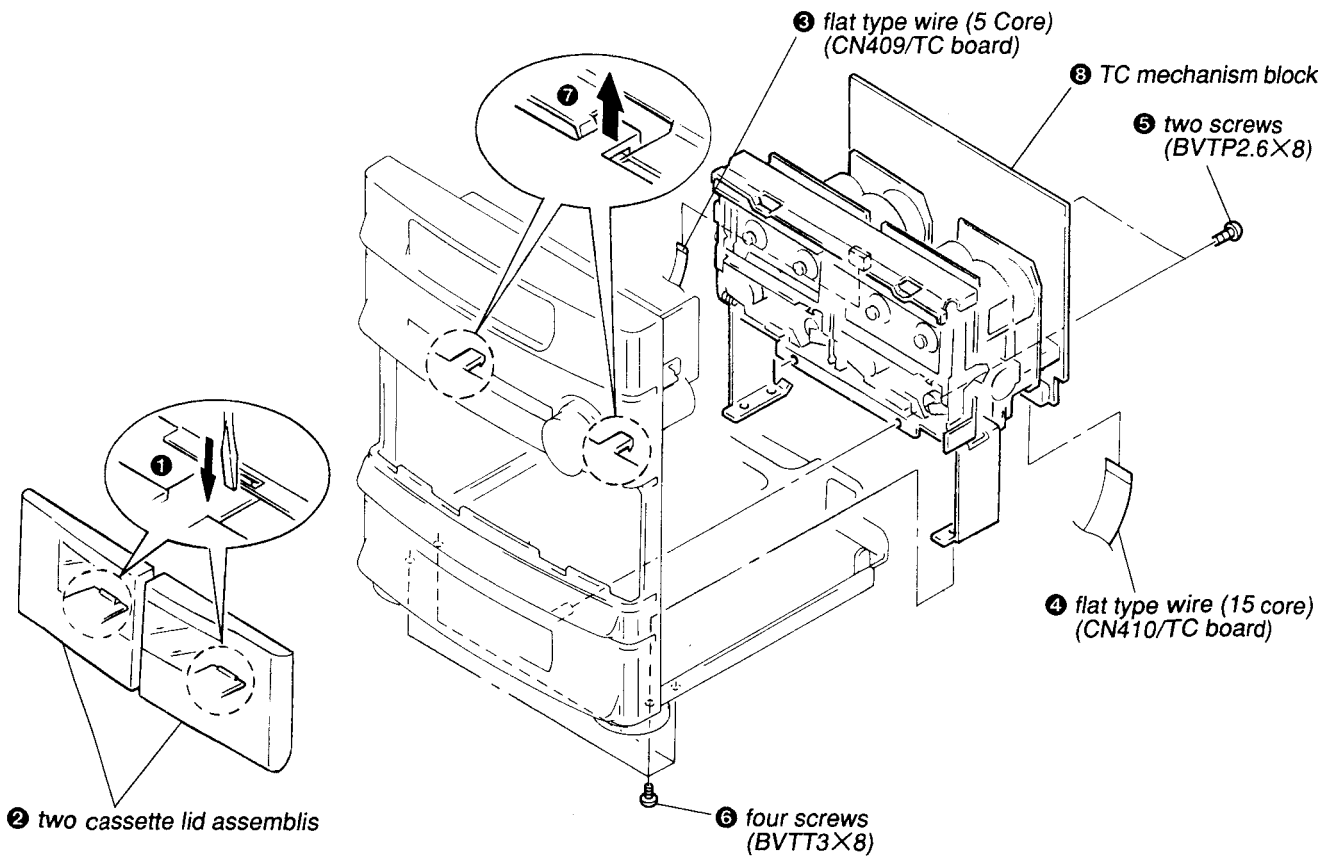
3-3. MAIN BOARD REMOVAL



3-4. CD MECHANISM BLOCK REMOVAL



3-5. TC MECHANISM BLOCK REMOVAL



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback head　　pinch roller
   erase head　　rubber belt
   capstan　　idler
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustment should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	35 to 60g • cm (0.49 to 0.83oz • inch)
Forward back tension	CQ-102C	2 to 6g • cm (0.028 to 0.08oz • inch)
Reverse	CQ-102RC	35 to 60g • cm (0.49 to 0.83oz • inch)
Reverse back tension	CQ-102RB	2 to 6g • cm (0.028 to 0.08oz • inch)
FF/REW	CQ-201B	70 to 110g • cm (0.98 to 1.52oz • inch)

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   • Switch position
   DOLBY NR switch : OFF
3. Perior to electrical adjustments, short the connector CN401 (test mode).

• Test Tape

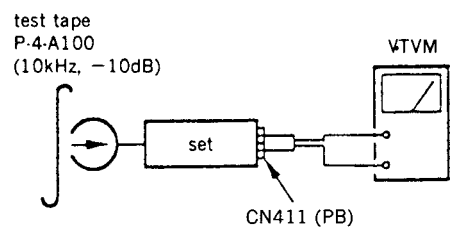
Tape	Contents	Use
P-4-A100	10kH, −10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

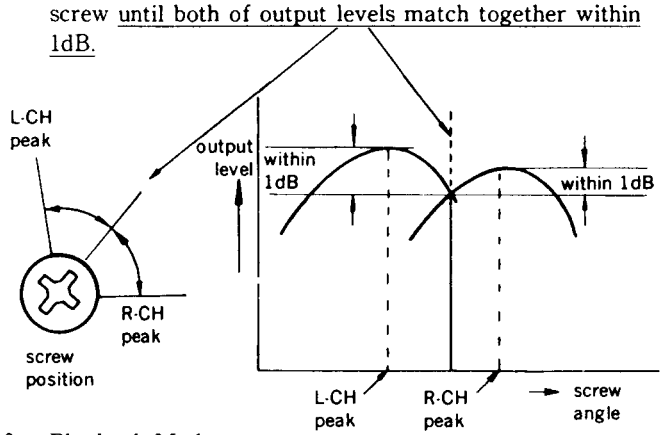
DECK A **DECK B**

Procedure :

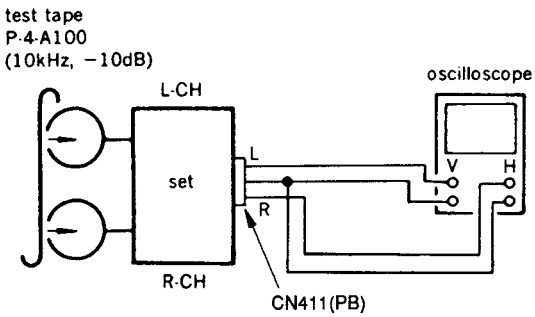
1. Forward Playback Mode
   Reverse Playback Mode

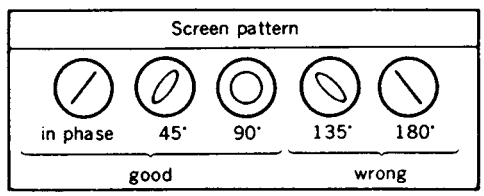


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Playback Mode

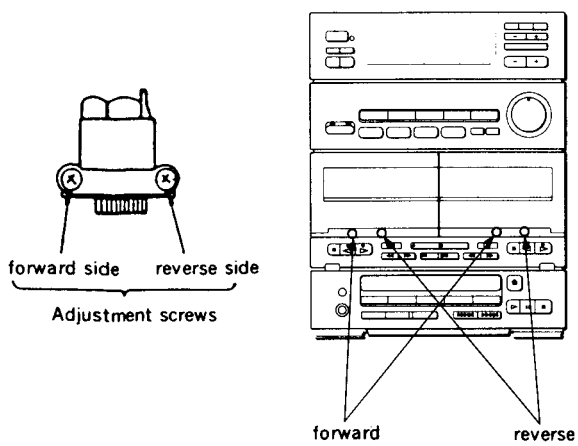




4. Change the review playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

—record/playback head (deck A and B)

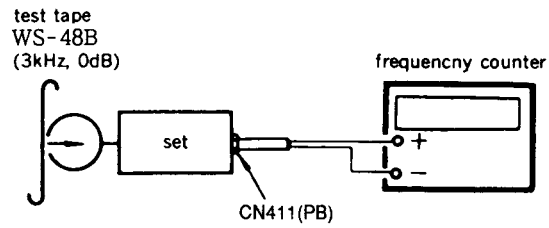


Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustment.

Mode : playback



Speed	Deck	Adjustment	Frequency counter
※ High	A	RV72	5,970 to 6.030Hz
	B	RV72	
Normal	A	RV71	2,985 to 3,015Hz
	B	RV71	

※ Continue to press HIGH SPEED DUBBING switch (S557) in playback mode : High speed playback.

Frequency difference between the begining and the end of the tape should be within ±3%.

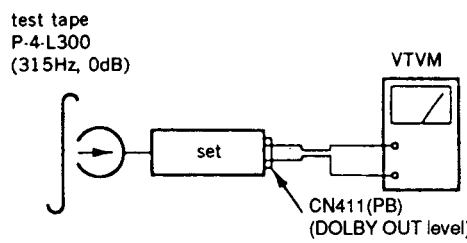
Frequency difference between deck A and deck B the biginning of the tape should be within 1.5%.

Adjustment Location: MD (AX) and MD (BX) boards.

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : playback



Deck A is RV11 (L-CH) and RV21 (R-CH), deck B is RV11 (L-CH) and RV21 (R-CH) so that adjustment within adjustment level as follows.

Adjusment Level :

LINE OUT level : −12.7 ± 1.0dB (0.16 to 0.20V)

Level Difference between Channels : within 0.5dB

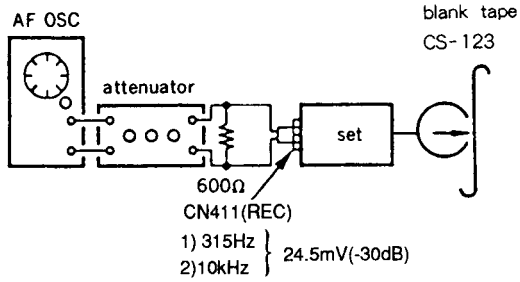
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD (AX) and MD (BX) boards

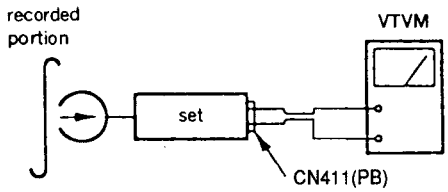
Record Bias Adjustment DECK B

Procedure :

1. record mode



2. playback mode



Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjusment the RV12 (L-CH) and RV22 (R-CH) to repeat step 1 and 2.

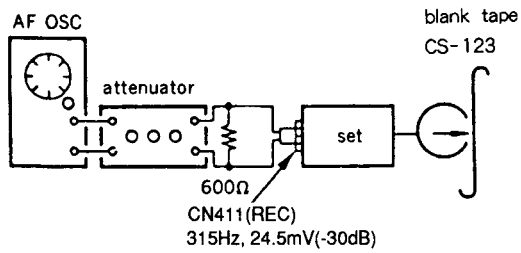
Adjusment level : Playback output of 315Hz to playback output of 10kHz : −0.5dB to 0.5dB.

Adjustment Location : MD (BX) board

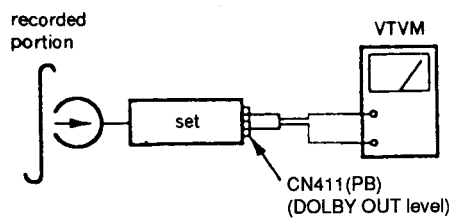
Record Level Adjustment DECK B

Procedure :

1. record mode



2. playback mode



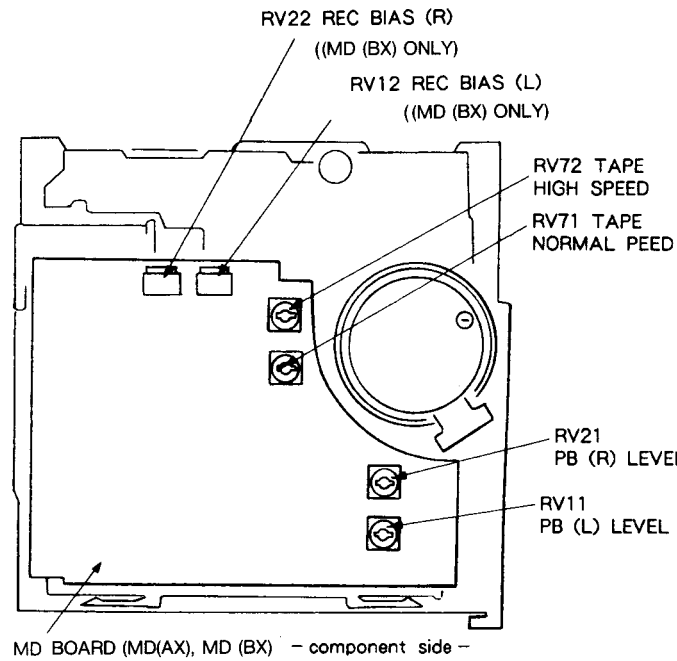
Confirm playback the signal recorded in step become adjustment level as follows.
If these levels do not adjustment level, adjusment the RV103 (L-CH) and RV203 (R-CH) to repeat step 1 and 2.

Adjusment Level :
DOLBY OUT level : −39.0dB±0.5dB (8.2 to 9.2mV)

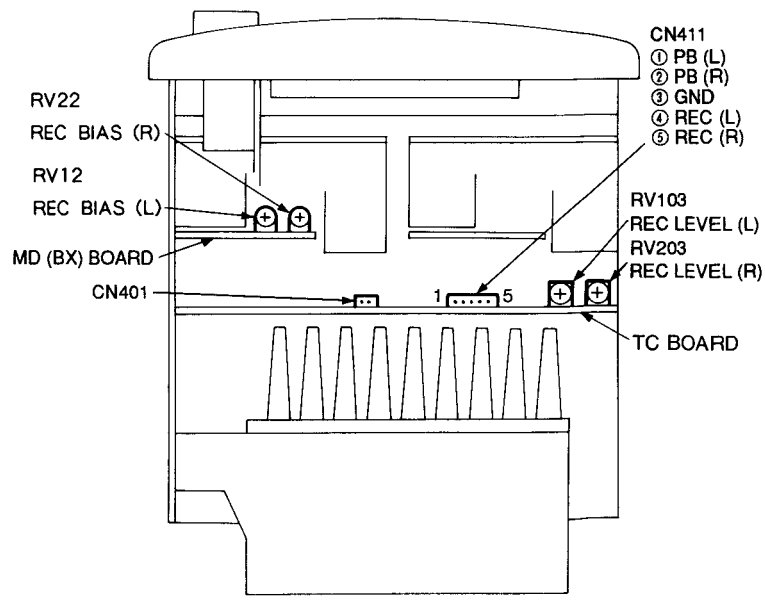
Adjustment Location : TC board

Adjustment Location :

Mechanism deck − rear side −



TC board − component side −

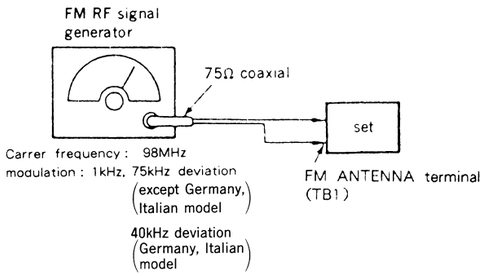


TUNER SECTION

Note : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

FM SECTION ADJUSTMENTS

Setting :



FM Tuned Indication Lighting Level Adjustment

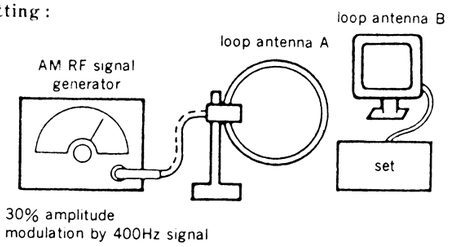
Band : FM

Procedure:

1. Germany, Italian model:
   Supply a 11 μ V (21dB μ) 98MHz signal from the ANTENNA terminal.
   except Germany, Italian model:
   Supply a 13 μ V (23dB μ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV1 so thta the TUNED light up.
4. Germany, Italian model:
   Confirm that that TUNED light off with FM RF signal generator output level set at 18dB μ .
   except Germany, Italian model:
   Confirm that the TUNED light off with FM RF signal generator output level set at 20dB μ .

AM SECTION ADJUSTMENTS

Setting :



SW OSC Voltage Adjustment

Band : SW

Procedure :

1. Connect the VOM to JW693 (OSC).
2. Tune the set to 5.95MHz.
3. Adjust T2 for 0.9 to 1.1V reading on the VOM.
4. Tune the set to 17.90MHz.
5. Adjust CT2 for 8.3 to 8.7V reading on the VOM.

SW Tracking Adjustment

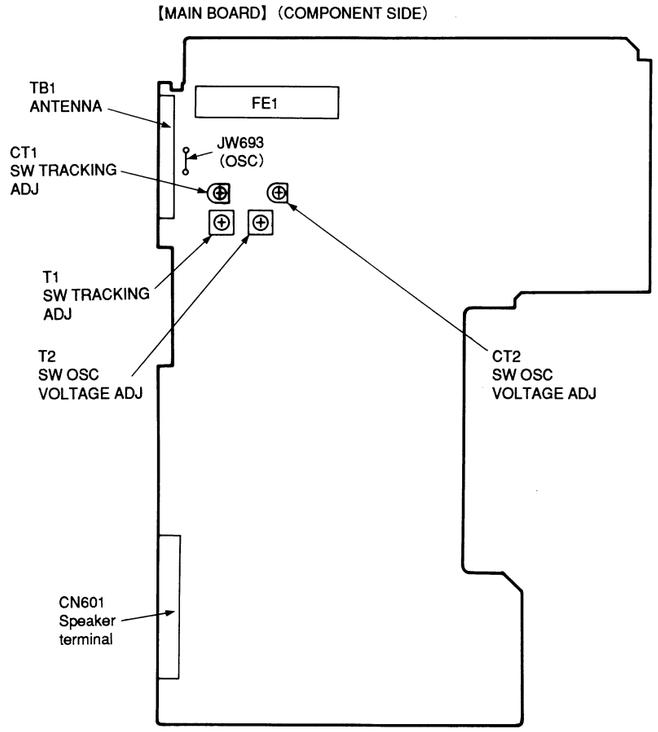
Band : SW

Procedure :

1. Cornect the VOM to speaker terminal.
2. Adjust for a maximam reading on VOM(CN601).

Signal generator and Set frequency	Adjustment part
7.0MHz	T1
17.0MHz	CT1

Adjustment Location : main board —component side—



CD SECTION

Note :

1. CD Block bas
   adjustment. Th
2. Use YEDS-18
   indicated.
3. Use the oscillos
4. Clean an obje
   detergent whe
   value with the

S-Curve Check

BD bo
TP (F
TP (V

Procedure :

1. Connect oscillo
   board.
2. Connect betwe
   by lead wire.
3. Turned Power
   (actuate the fo
   and out.)
4. Check the
   symmetrical be
   peak level with

S-curve waveform

5. After check, re

Note : · Try to m
the ratio
· Take swe
the brigh

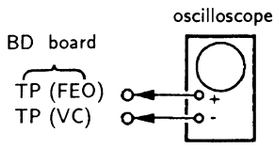
RF Level Check

BI
TP
TP

ECTION

Block basically constructed to operate without ustment. Therefore, check each item in order given.
YEDS-18 disc (3-702-101-01) unless otherwise icated.
the oscilloscope with more than 10MΩ impedance.
an an object lens by an applicator with neutral ergent when the signal level is low than specified ue with the following checks.

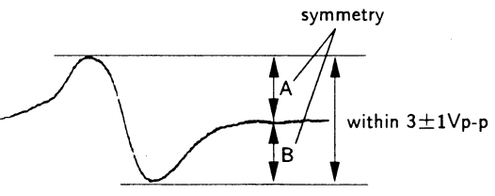
e Check



ure :

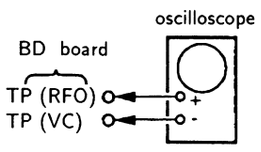
nnect oscilloscope to test point TP (FEO) on BD rd.
nnect between test point TP (FES) and TP (VC) lead wire.
rned Power switch on and actuate the focus search. uate the focus search when disc table is moving in out.)
eck the oscilloscope waveform (S-curve) is metrical between A and B. And confirm peak to k level within 3±1Vp-p.

e waveform



er check, remove the lead wire connected in step 2.
- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

vel Check

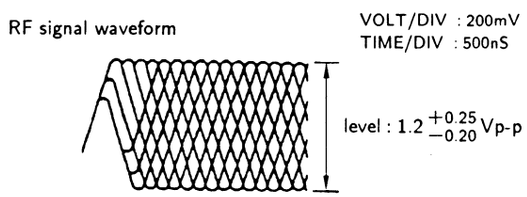


Procedure :

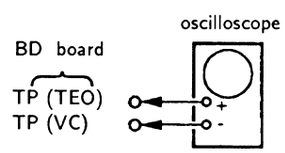
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.



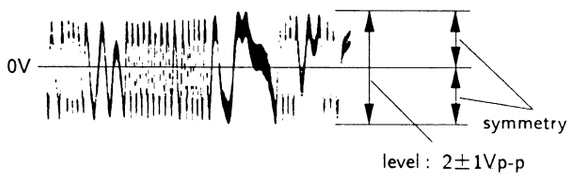
E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse waveform

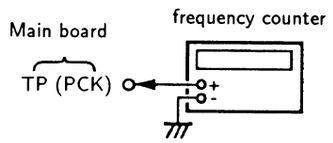


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCK) with lead wire.



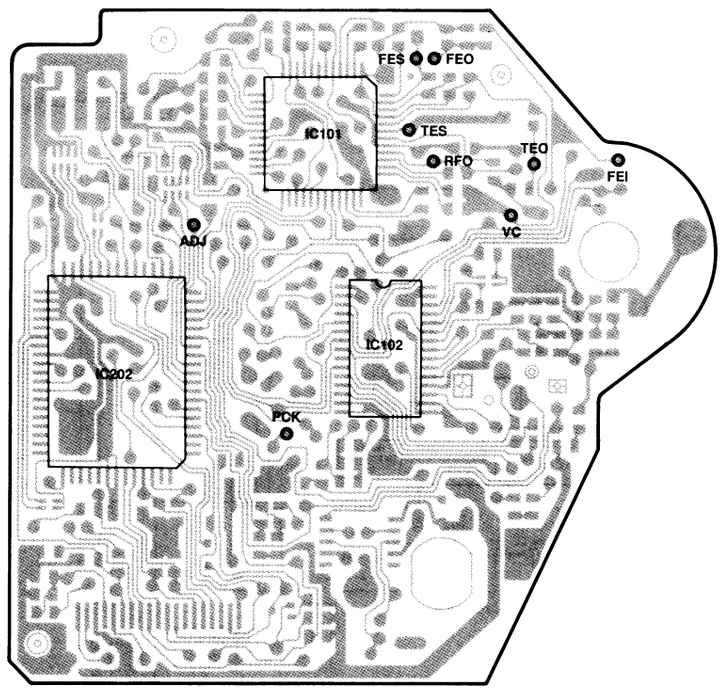
2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218 MHz.

Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

【BD BOARD】**(SIDE B)**

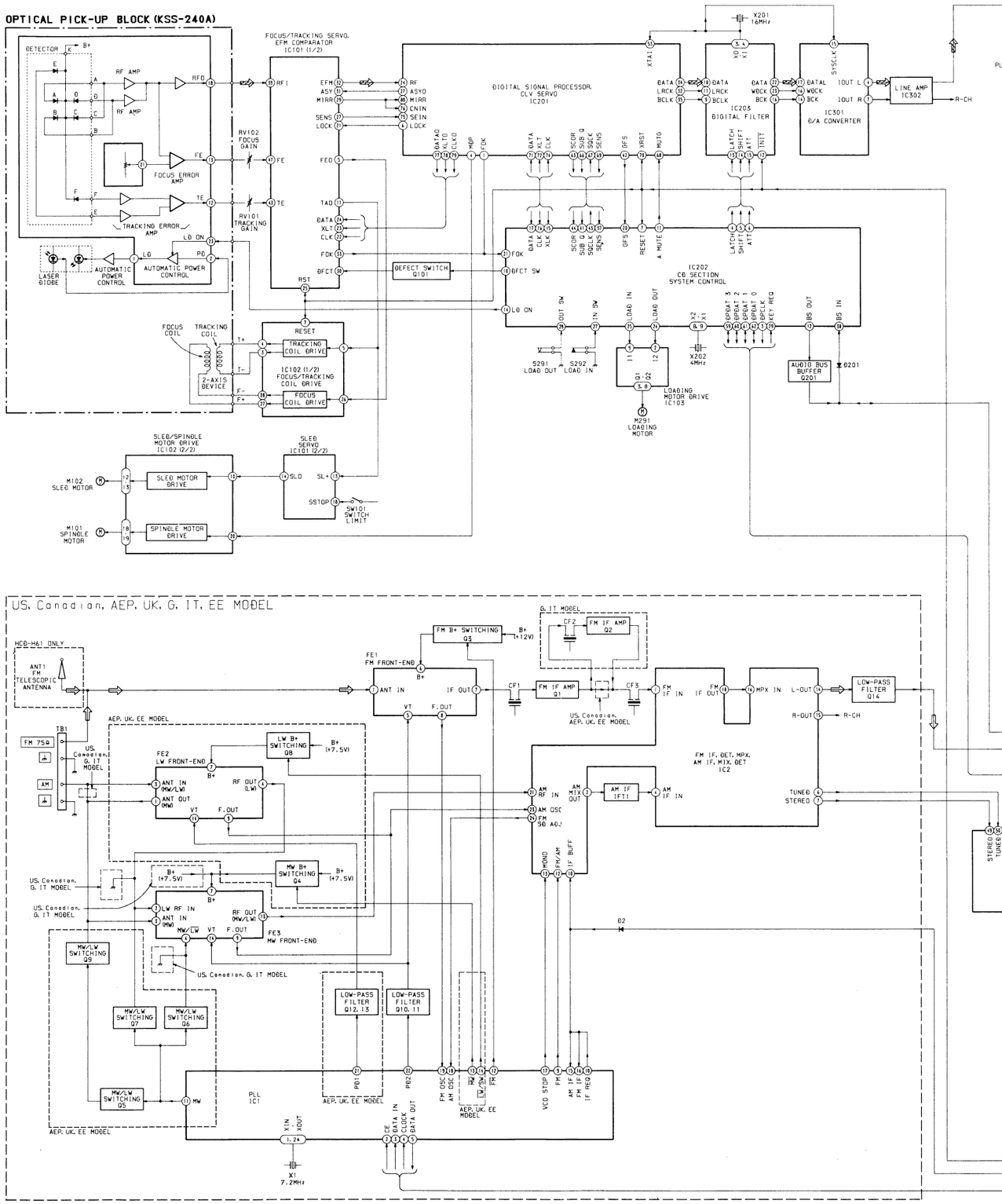


SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM

●Abbreviations

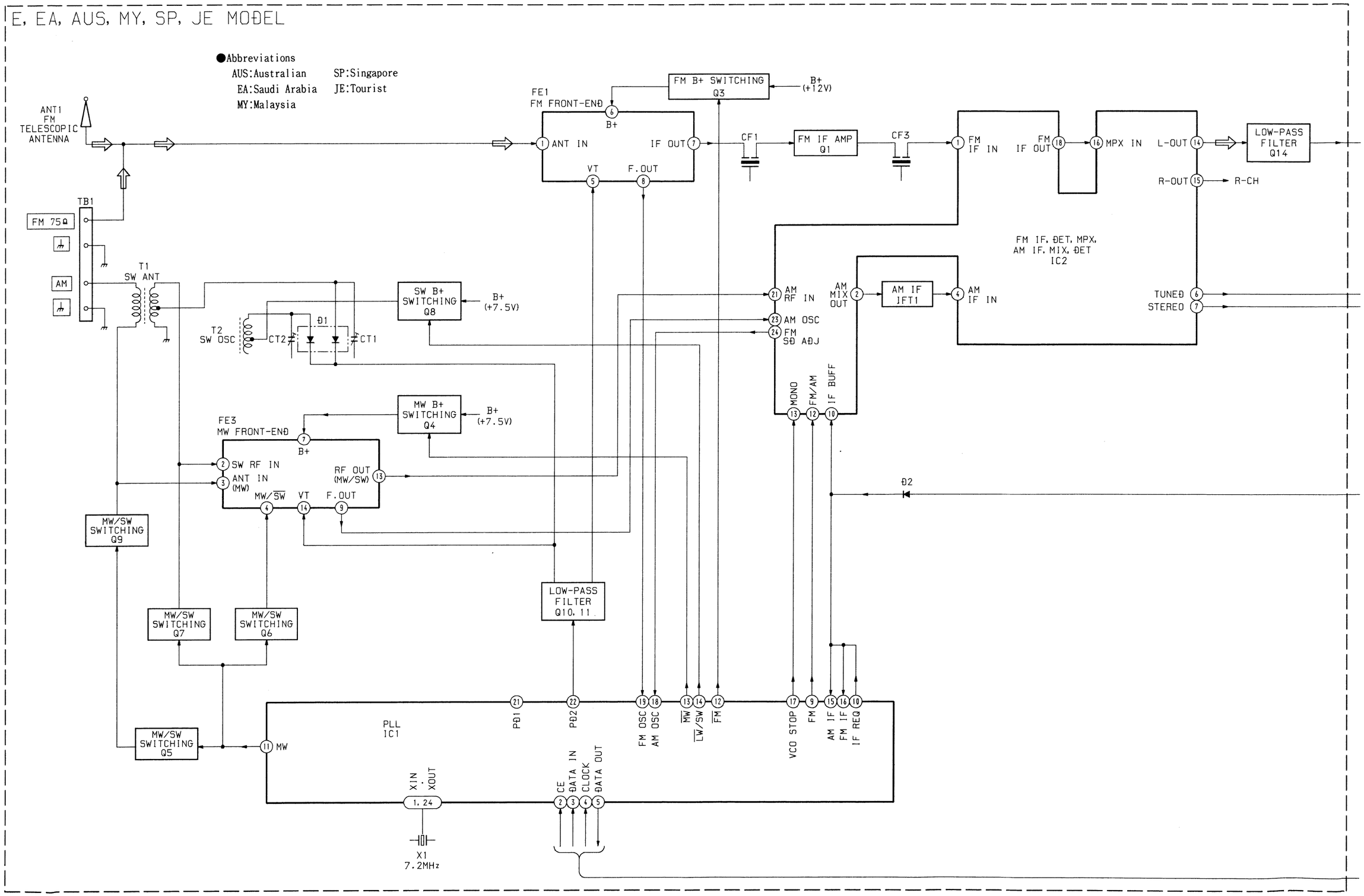
G:Germany	AUS:Australian
IT:Italian	EA:Saudi Arabia
MY:Malaysia	EE:East European
SP:Singapore	
JE:Tourist	



:FM SIGNAL PATH
:CD SIGNAL PATH
:DECK-A PLAYBACK SIGNAL PATH
:DECK-B PLAYBACK SIGNAL PATH
:DECK-B RECORD SIGNAL PATH

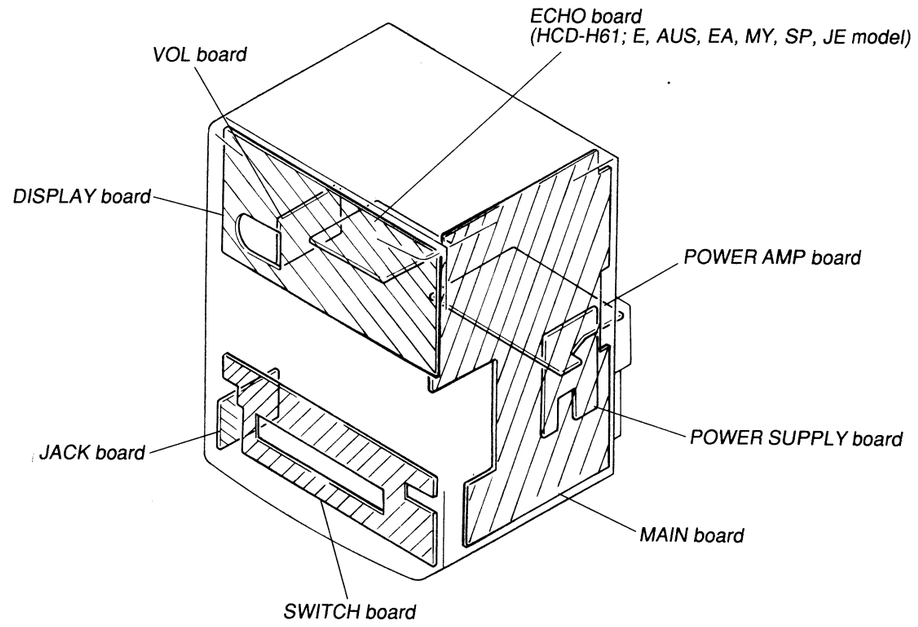
DOLBY NR REC EQ AMP, AMS IC403
PASS
PB REC
DOLBY NR
DOLBY
PB OUT
LINE MUTE Q101
R-CH
LPF
AMS OUT
AMS BUFFER Q400
REC IN
PASS/DOLBY
REC/PB
A/B
LM ON/OFF
REC OUT
BIAS ON/OFF
NR ON/OFF
NORM/HIGH
RM ON/OFF
DECK SELECT SWITCHING (DECK-A/B) Q403
REC/PB SWITCHING Q402
S587 DOLBY NR ON OFF
B+ (+5V)
LINE MUTE CONTROL SWITCH Q415
BIAS ON/OFF SWITCHING Q404
DUBBING SPEED SWITCHING (HIGH/NORMAL) Q401
D553 DUB (H)
E, EA, AUS, MY, SP, JE MODEL
RV501 MIC LEVEL
IC610 ECHO AMP
LPF1 IN
OP2 OUT
LPF2 IN
LPF2 OUT
XIN XOUT
X610 2MHz
RV502 ECHO
MIX AMP IC602
US, Canadian, E, EA, AUS, MY, SP, JE MODEL
J261 MIX MIC
MIC AMP IC250
US, Canadian MODEL
J601-1 VIDEO/AUX L
J601-1 PHONO L
EQ AMP IC601
AEP, UK, EE, G, IT MODEL
PHONO VIDEO/AUX
CD
TUNER
TAPE
FUNCTION SWITCH IC602
COM
US, Canadian, AEP, UK, EE, G, IT MODEL
MIX AMP IC605
A B INT
MATRIX SWITCH (MAIN/SUB) IC603
KARAOKE PON SWITCH IC604
SURROUND SWITCHING Q601
BUFFER IC606
NF
SURROUND SWITCHING Q603
SURROUND SWITCHING Q604
GRAPHIC EQUALIZER (ELECTRICAL VOLUME) IC607
VIN1 VOUT1 GEQ- GEQ+ GEQ OUT VIN2 VOUT2 VCA IN VCA OUT
D584
D588
D510 MAIN
D511 SUB
D512 KARAOKE PON
D583
D514 DIRECT
D515 HIGH
D516 NORMAL
D517 S-SUR
MUTING Q751
POWER AMP IC801
BACKUP
OVERLOAD DET Q801
PROTECTOR IC802
OFFSET OVERLOAD VCC MUTE
PROTECT SWITCH Q850
RY601
MUTING CONTROL SWITCH Q585
AC DET SWITCH Q582
J251 HEADPHONES
CN601
SPEAKER IMPEDANCE USE 6-16Ω
J602 SURROUND SPEAKER
E, EA, AUS, MY, SP, JE MODEL
EXPANDER (LED DRIVE) IC581
FUNC A FUNC B
KARAOKE
VOCAL
PON
DIRECT
DBFB2
DBFB1
S-SUR
DATA CLOCK LATCH
MUTE
POWER CD OFF
B+ (+5V)
RESET IC402
RESET
DECK SECTION SYSTEM CONTROL IC401
AUB OUT
A. BUS
AU BUS IN
KEY Y KEY X
X IN X OUT
X401 4MHz
A REV A FWD B REV B FWD B PAUSE B REC FB SYNC
S551-559
D551 D552 D557 D558 D554 D559 D555
D551 D552 D557 D558
D0351
TEST
CN401 TEST MODE
ARM3 - ARM1
BRM3 - BRM1
REEL MOTOR DRIVE IC404
M101A REEL MOTOR (DECK-A)
M101B REEL MOTOR (DECK-B)
ACM BCM
CAPSTAN MOTOR DRIVE (DECK-A) Q411 (DECK-B) Q412
M102A CAPSTAN MOTOR (DECK-A)
M102B CAPSTAN MOTOR (DECK-B)
H/L
CAPSTAN MOTOR SPEED CONTROL (HIGH/NORMAL) Q413, 414
Q71 (DECK-A) Q71 (DECK-B)
PWIN
AUDIO BUS BUFFER Q305, 405
AUDIO BUS BUFFER Q407
REMOTE CONTROL RECEIVER IC504
AUDIO BUS BUFFER Q507
SI/ACS
AUB IN
AUB OUT
FL DRIVE, KEY CONTROL (MAIN SYSTEM CONTROL) IC501
DATA CLK
LATCH CLK DATA OUT
CE DATA IN
JAZZ HALL ROCK BGM
Q508 Q506
LED DRIVE
D511 JAZZ
D512 HALL
D509 ROCK
D513 BGM
SDA SCL
MEMORY IC502
VOL+ VOL-
IN1 IN2 OUT1 OUT2
MOTOR DRIVE (VOLUME) IC200
M200 VOLUME MOTOR
B+ (+5.6V)
RV200 VOLUME
VOL
P1-P18 75-72, 70-57
G1-G12 76-80, 1-7
SEGMENT
GRID
FLUORESCENT INDICATOR TUBE FL501
BACKUP
RESET
RESET SWITCH Q502, 503
BACKUP SWITCH Q501
RESET IC503
B+ (+5.6V)
IC609 +5V REG.
+5V (CD SECTION)
VOUT VIN EN RESET
-27V
-27V REG. Q911
+12V (TUNER SECTION)
+12V REG., REG. CONTROL Q905-907
+7.5V
+5.6V
+5.6V REG. Q908
+7.5V REG. Q904, 911
D909
D910
POWER ON/OFF SWITCHING Q902
IC901 +7.5V REG. CONTROL
IN (+) OUT CONTROL IN (-)
-7.5V REG. Q903, 910
-7.5V
BACKUP
MUTE SWITCHING Q909
AC DET SWITCH Q901
+35V -35V
RECT Q911
+10V -10V
RECT Q903-906
T901 POWER TRANSFORMER
D902 D901
US, Canadian, AEP, UK, EE, AUS, G, IT MODEL
AC IN
VOLTAGE SELECTOR S901
E, EA, MY, SP, JE MODEL
VF

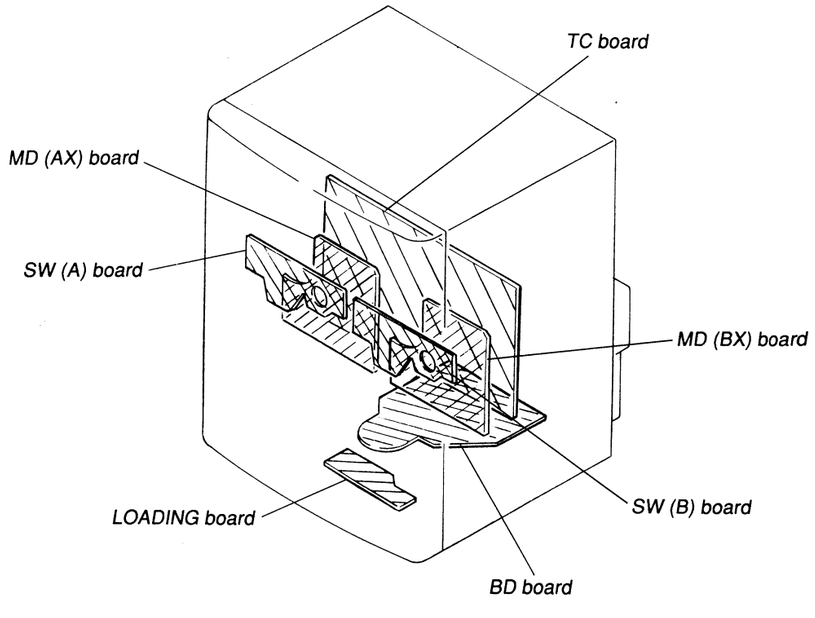
• BLOCK DIAGRAM —TUNER BLOCK—



6-2. CIRCUIT BOARDS LOCATION

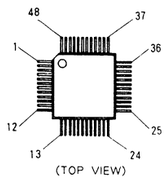
●Abbreviations
AUS:Australian
EA:Saudi Arabia
MY:Malaysia
SP:Singapore
JE:Tourist



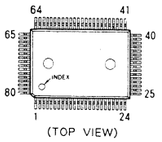


6-3. SEMICONDUCTOR LEAD LAYOUTS

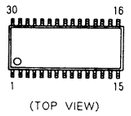
CXA1372AQ



CXD2500BQ

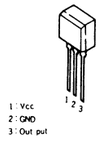


LA6525M

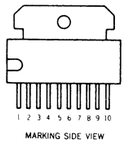


M5230L-A
μPC1237HA

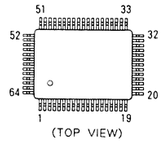
PST572E



TA7272P

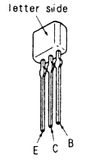


μPD75116GF-F21-3BE

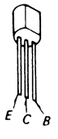


DTA114ES
DTA124ES
DTA144ES
DTC114ES
DTC144ES
2SC2603-EF
2SC2724-CD

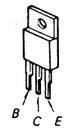
2SA1175-HFE
2SC3623A-LK



2SB1013-4
2SC1841-PAFAEA
2SC3112-A

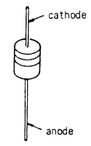


2SA473
2SD2012-LC

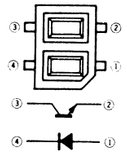


2SK246-GR3

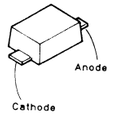
HZS6A1L
HZS6C3L
HZS24-1L
11ES2



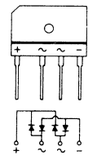
NJL5165K-B



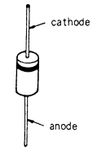
MA8039



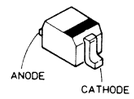
RBA-402



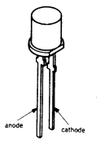
UZL-12L3
1N4148M



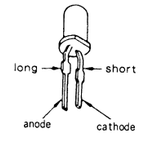
1SS352



LED-SX-TP

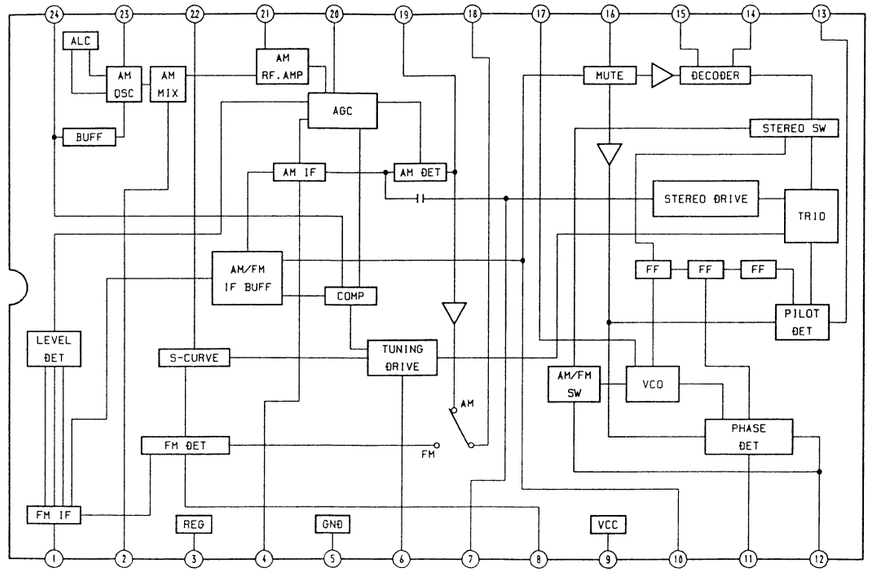


SEL2210S-CD
SEL5220S
SEL5420S
SEL5920A

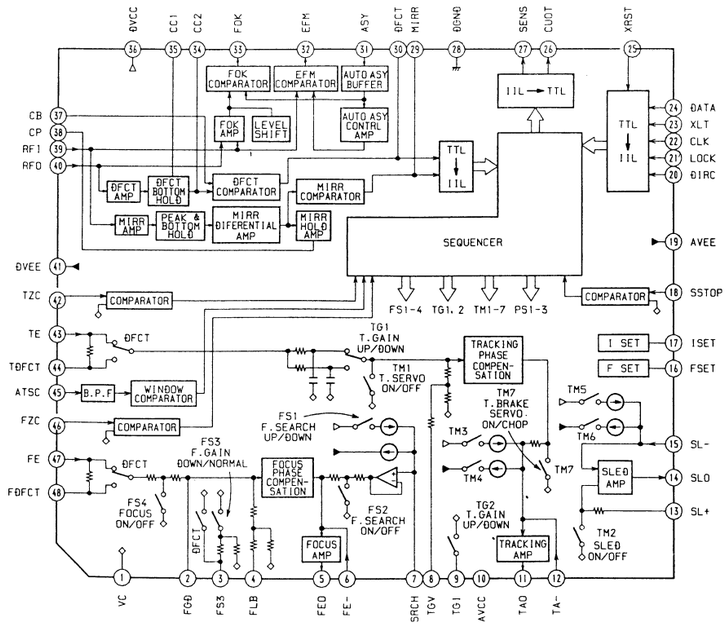


6-4. IC BLOCK DIAGRAMS

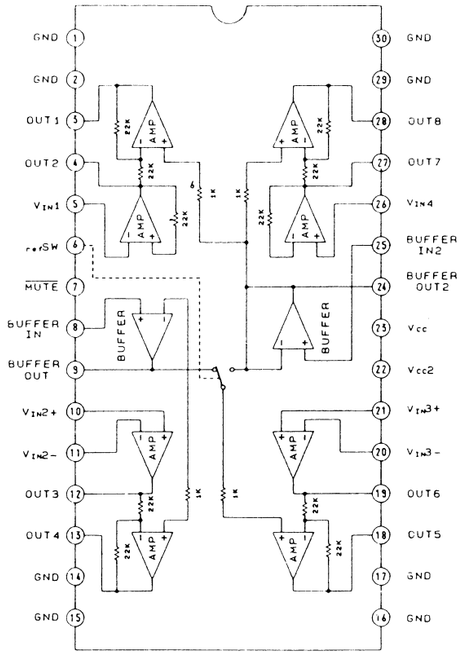
IC2 LA1831



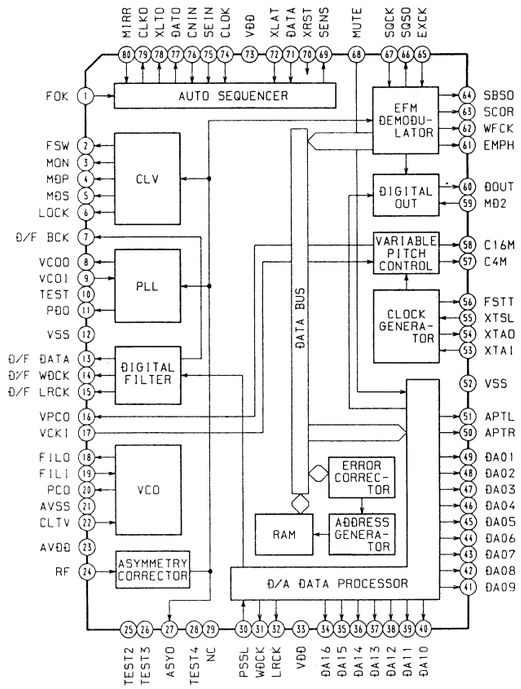
IC101 CXA1372AQ



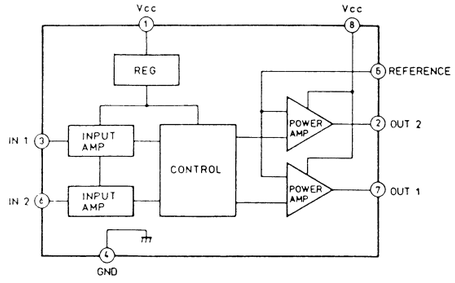
IC102 LA6525M



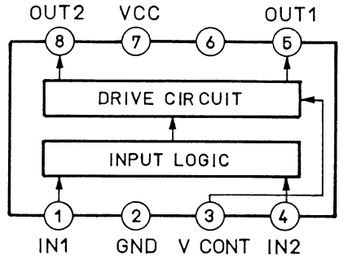
IC201 CXD2500BQ



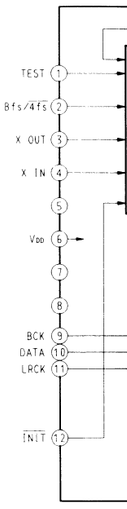
IC103 M54641FP



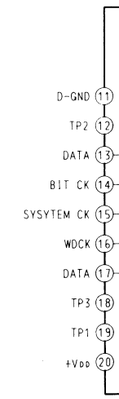
IC200 LB1639

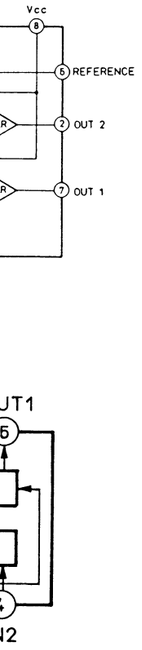


IC203 MSI

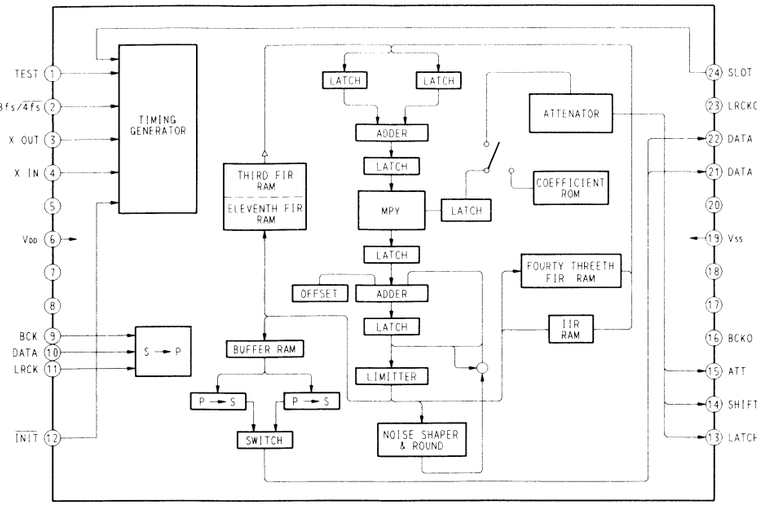


IC301

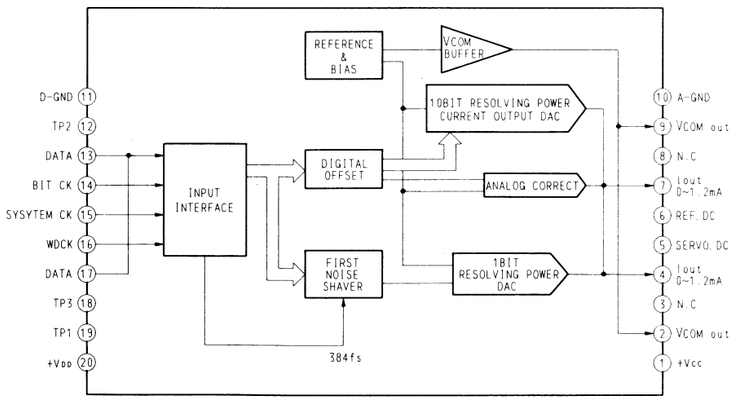




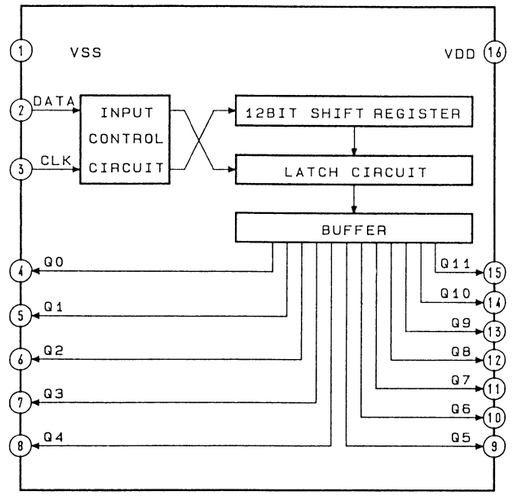
IC203 MSM6538-01GS-VKR1



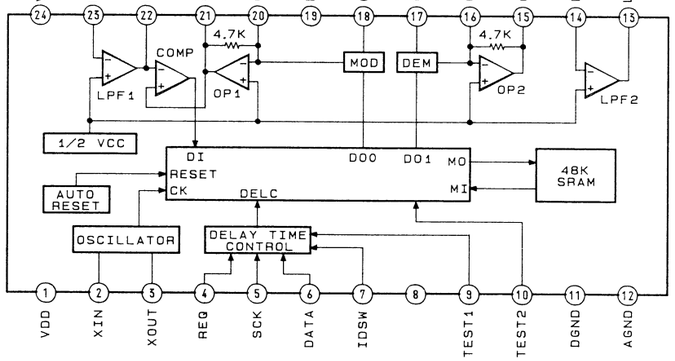
IC301 PCM67U-B



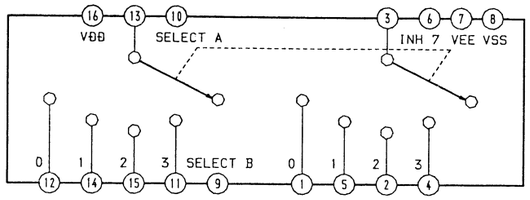
IC581 M50253PK



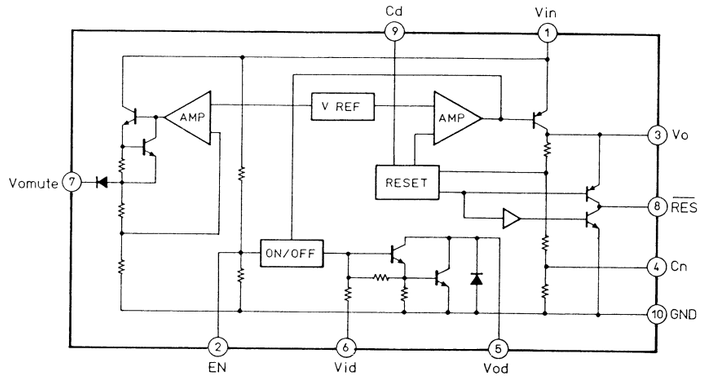
IC601 M65831P



IC602 MC14052BCP



IC609 LA5601



6-5. PRINTED WIRING BOARDS —MAIN Section—

• See page 31, 32 for Circuit Boards Location and Semiconductor Lead Layouts.

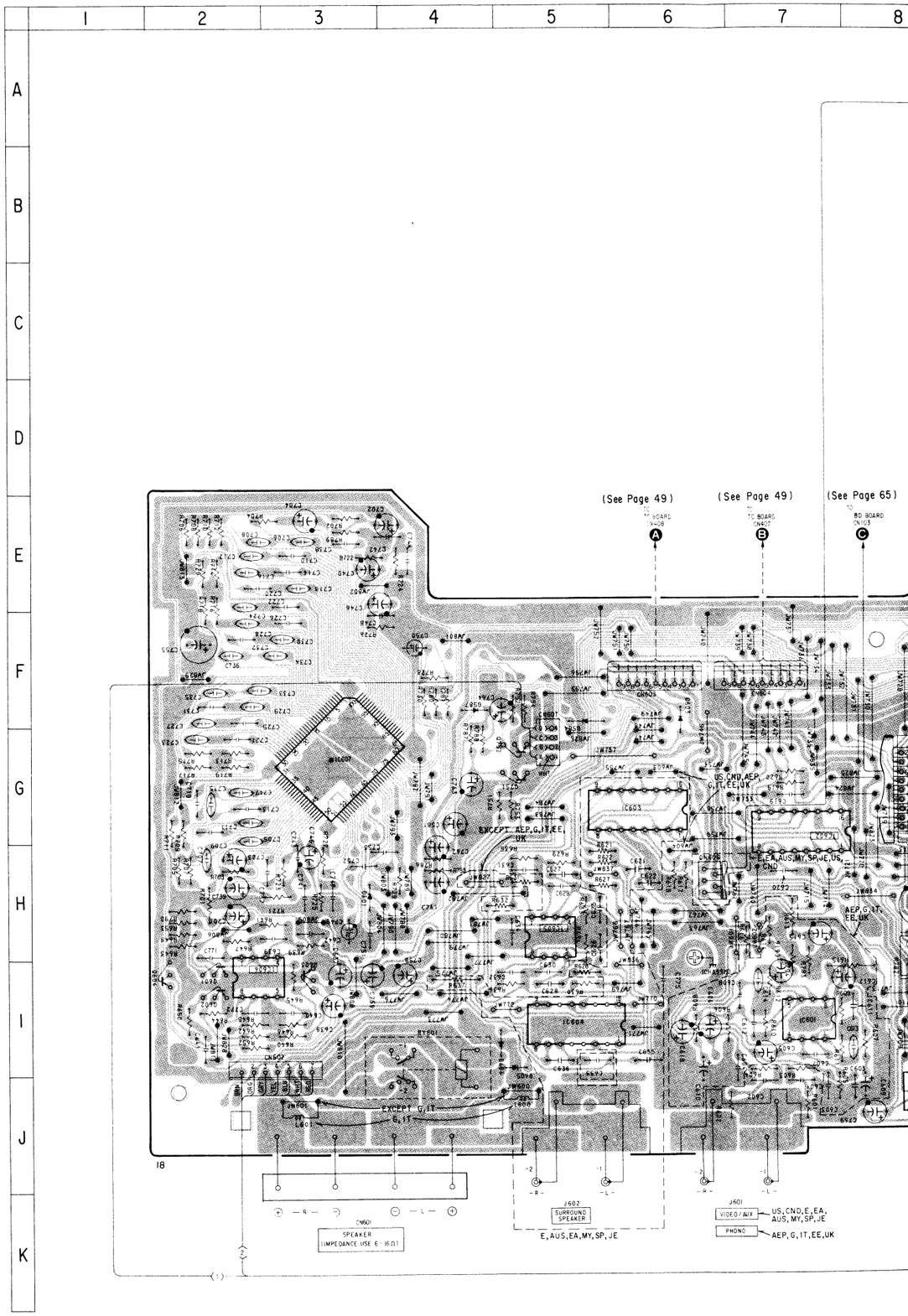
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D1	I-9	IC802	I-19
D2	E-11	IC901	I-18
D581	D-11		
D582	D-11	Q1	H-10
D583	D-11	Q2	G-10
D584	F-5	Q3	G-9
D586	E-11	Q4	H-9
D587	F-4	Q5	G-9
D588	D-11	Q6	I-10
D589	J-11	Q7	J-10
D590	I-11	Q8	H-9
D601	H-3	Q9	I-9
D603	F-6	Q10	H-11
D604	I-4	Q11	G-11
D605	I-4	Q12	H-12
D801	H-20	Q13	G-12
D851	H-19	Q14	D-9
D901	J-16	Q15	D-9
D902	J-16	Q581	E-10
D903	I-16	Q582	E-11
D904	J-16	Q583	C-9
D905	I-15	Q601	H-2
D906	J-15	Q602	I-2
D907	J-19	Q603	I-2
D908	J-19	Q604	H-1
D909	I-18	Q751	G-4
D910	I-18	Q752	G-4
D911	I-15 POWER AMP	Q801	H-20
D911	C-19 POWER SUPPLY	Q802	H-19
D912	B-19	Q850	I-19
		Q901	J-18
IC1	F-11	Q902	I-18
IC2	F-9	Q903	G-16
IC581	D-11	Q904	G-16
IC601	I-7	Q905	J-19
IC602	G-7	Q906	J-19
IC603	G-5	Q907	J-19
IC604	I-5	Q908	J-20
IC605	H-5	Q909	J-18
IC606	H-2	Q910	G-16
IC607	G-3	Q911	G-16 POWER AMP
IC609	I-8	Q911	B-18 POWER SUPPLY
IC801	G-18		

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.

CND : Canadian — EE : East European
G : Germany — MY : Malaysia
IT : Italian — SP : Singapore
AUS : Australian — JE : Tourist
EA : Saudi Arabia



【MAIN BOARD】

【JACK BOARD】

【ECHO BOARD】

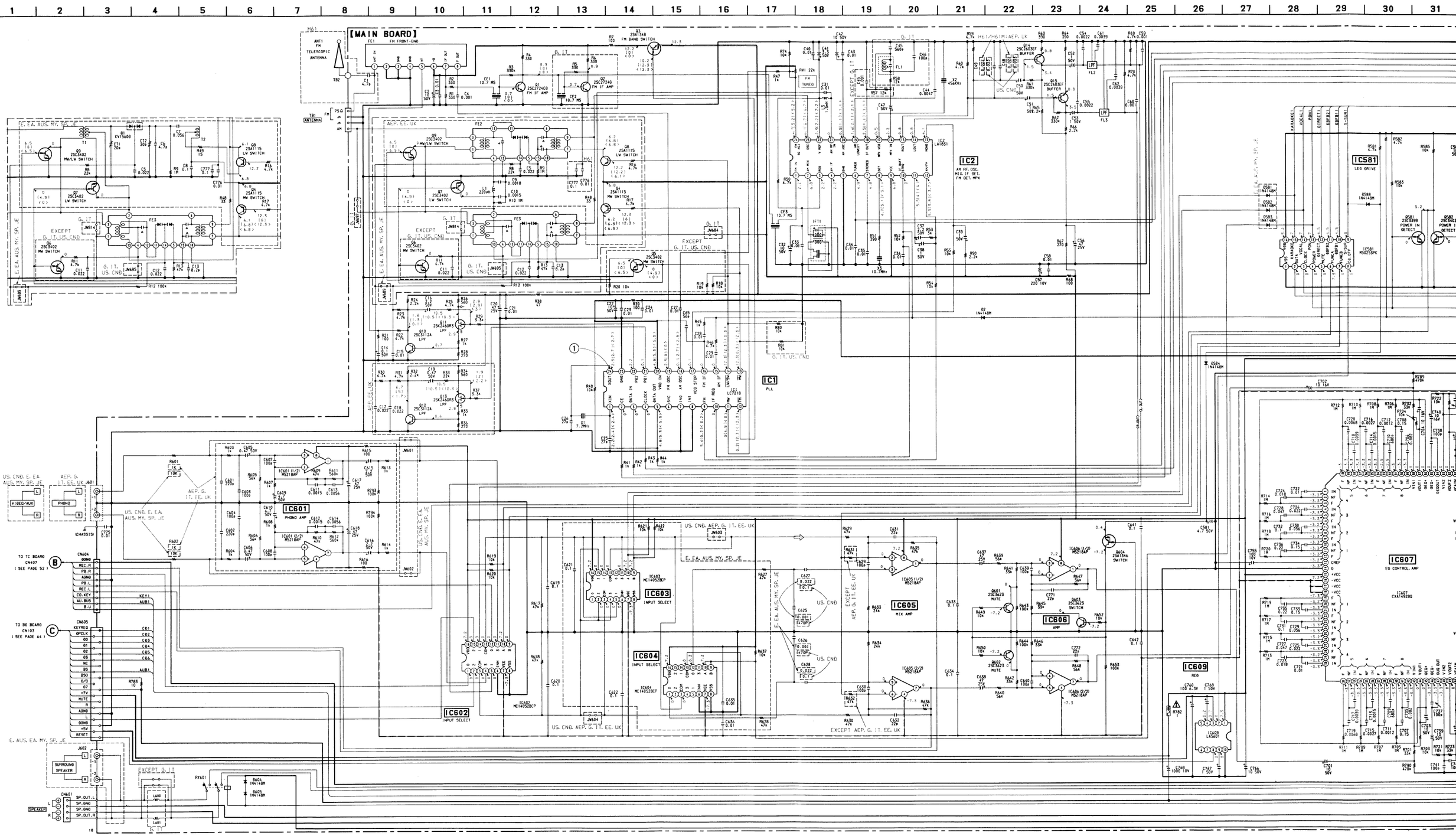
【POWER SUPPLY BOARD】

【POWER AMP BOARD】

(See Page 49)
(See Page 49)
(See Page 65)
(See Page 60)
(See Page 60)
(See Page 61)
(See Page 50)
(See Page 61)

6-6. SCHEMATIC DIAGRAMS —MAIN Section—

• See page 33 for IC Block Diagrams.



E, EA, AUS, MY, SP, JE

【ECHO BOARD】

IC602 ECHO AMP

IC610 ECHO

TO DISPLAY BOARD CN505 (SEE PAGE 58)

【JACK BOARD】

IC250 MIC AMP

TO TC BOARD CN409 (SEE PAGE 52)

IC581 LED DRIVE

TO TC BOARD CN408 (SEE PAGE 52)

TO DISPLAY BOARD CN501 (SEE PAGE 57)

TO DISPLAY BOARD CN502 (SEE PAGE 57)

TO DISPLAY BOARD CN504 (SEE PAGE 58)

IC607 EQ CONTROL AMP

IC609 REG

E, EA, AUS, MY, SP, JE, US, CND

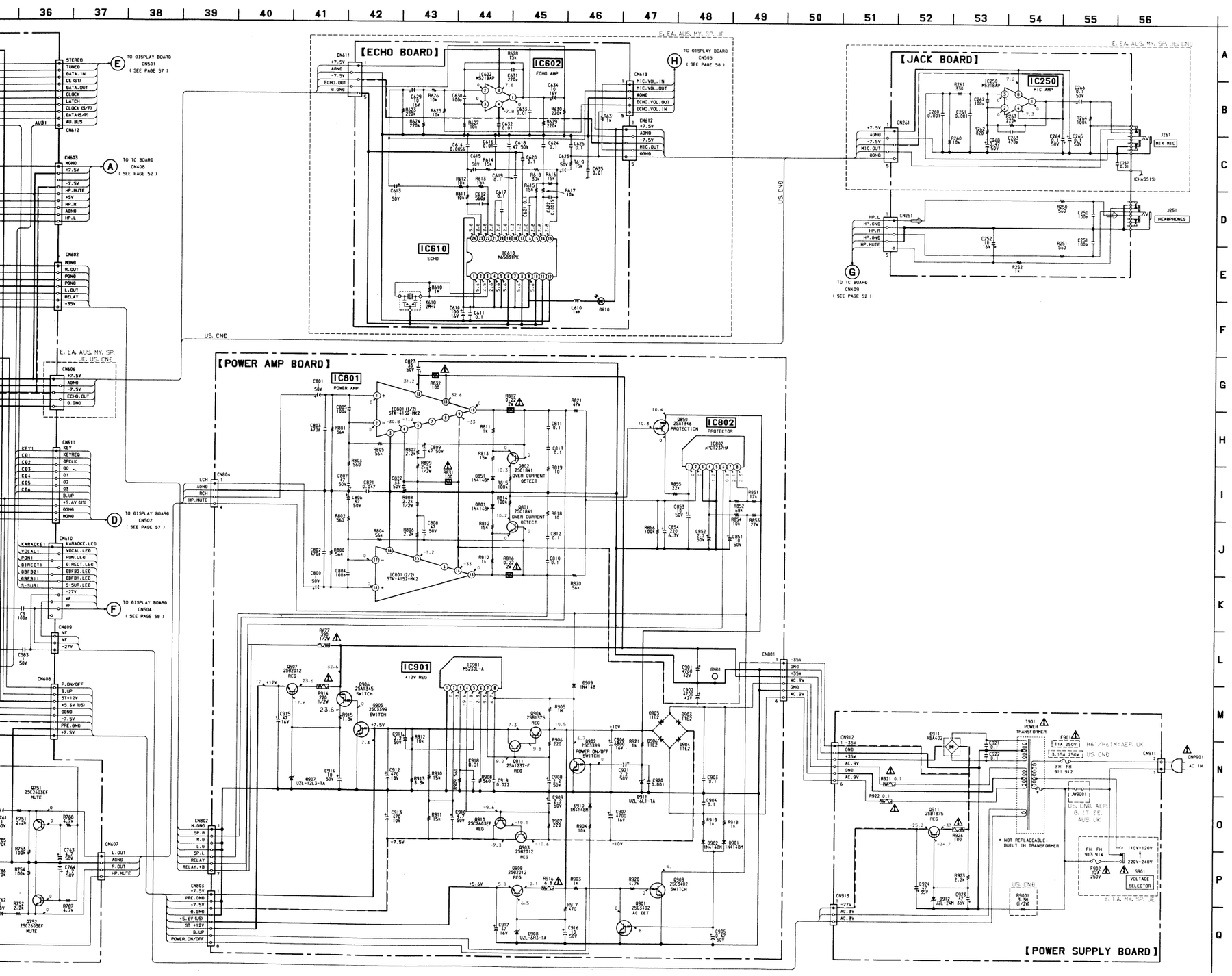
【POWER AMP BOARD】

IC801 POWER AMP

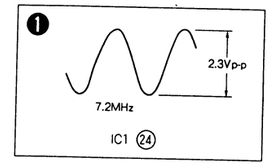
IC802 PROTECTOR

IC901 +12V REG

【POWER SUPPLY】



• Waveform



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW
  < > : SW/LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM ⇨ : PB (DECK A)
  ⇨ : REC (DECK B) ⇨ : CD

CND : Canadian EE : East European
G : Germany MY : Malaysia
IT : Italian SP : Singapore
AUS : Australian JE : Tourist
EA : Saudi Arabia

• Semiconductor Location

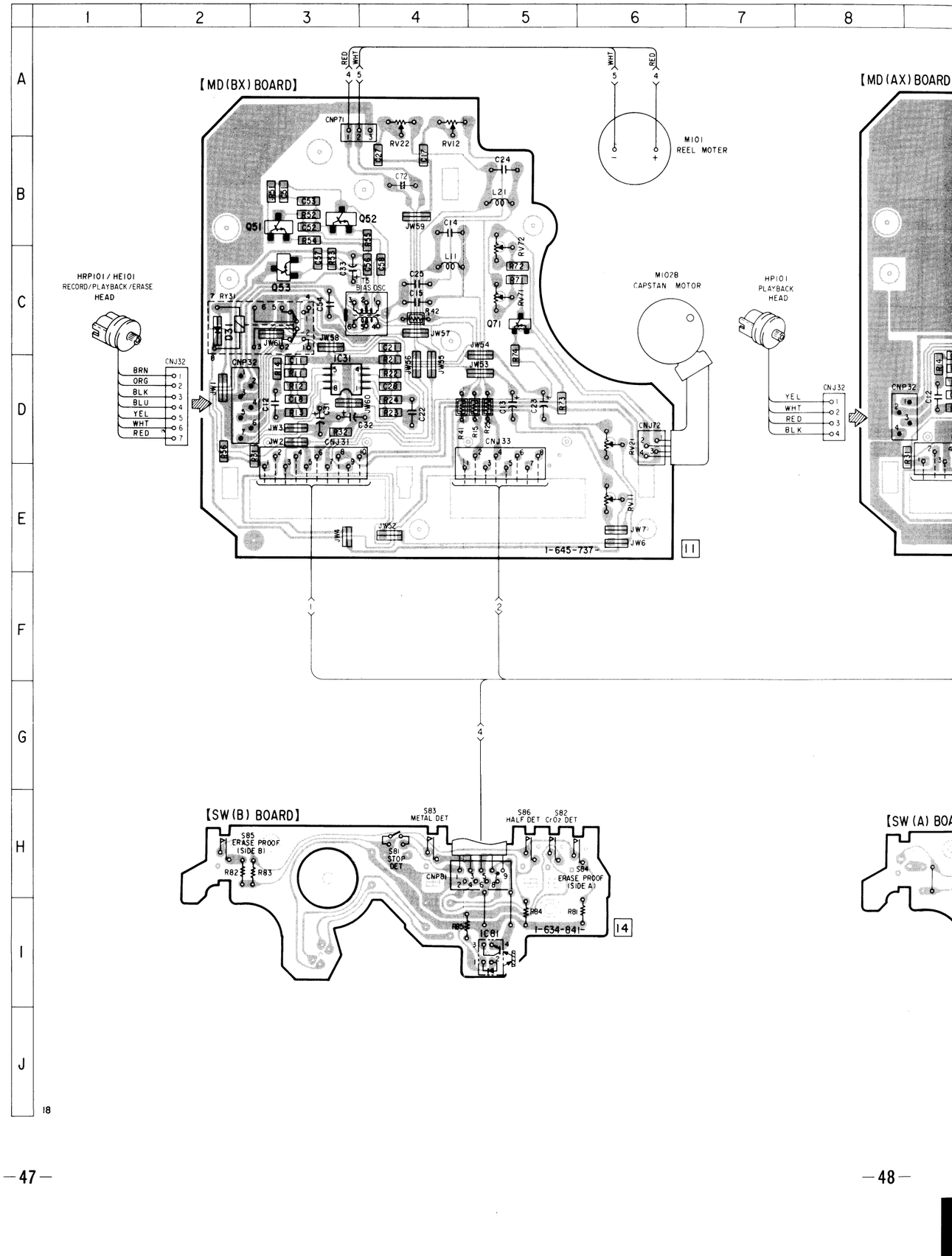
Ref. No.	Location	Ref. No.	Location
D31	C-2	Q51	B-3
D301	H-18	Q52	B-3
D302	H-18	Q53	C-3
D351	F-15	Q71	C-5 MD(BX)
D402	I-20	Q71	C-11 MD(AX)
D403	I-18	Q101	F-19
D551	A-22	Q201	E-19
D552	A-22	Q305	E-15
D553	A-20	Q306	I-16
D555	A-19	Q400	H-21
D556	B-20	Q401	F-18
D557	A-16	Q402	F-19
D558	A-15	Q403	I-18
D559	B-19	Q404	I-16
		Q405	E-16
IC31	D-3 MD(BX)	Q407	E-15
IC31	D-9 MD(AX)	Q408	I-18
IC81	I-5 SW(B)	Q411	I-19
IC81	I-11 SW(A)	Q412	I-18
IC401	F-16	Q413	G-18
IC402	F-15	Q414	G-18
IC403	F-21	Q415	F-18
IC404	G-16		

Note:

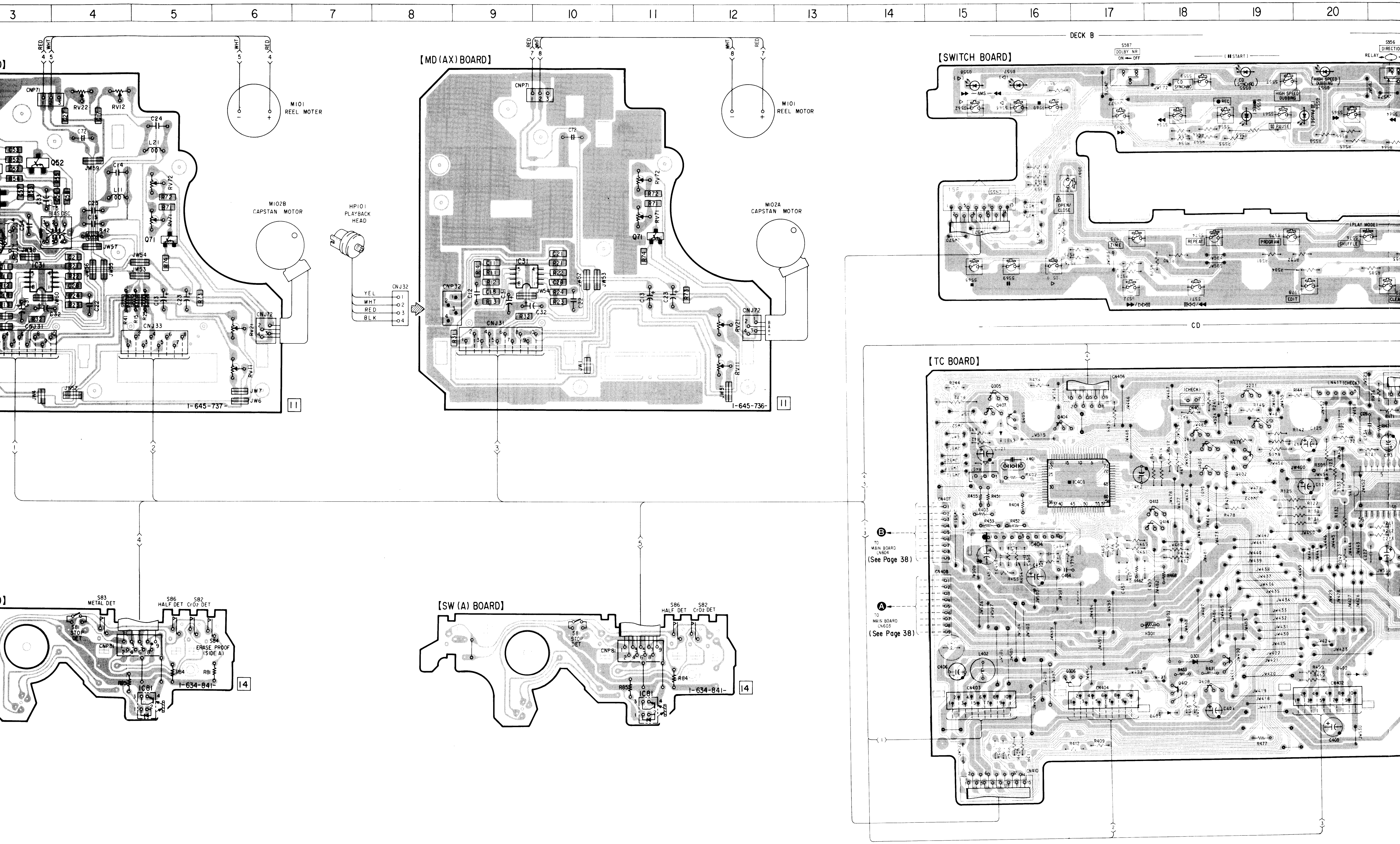
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ⊡ indicates side identified with part number.

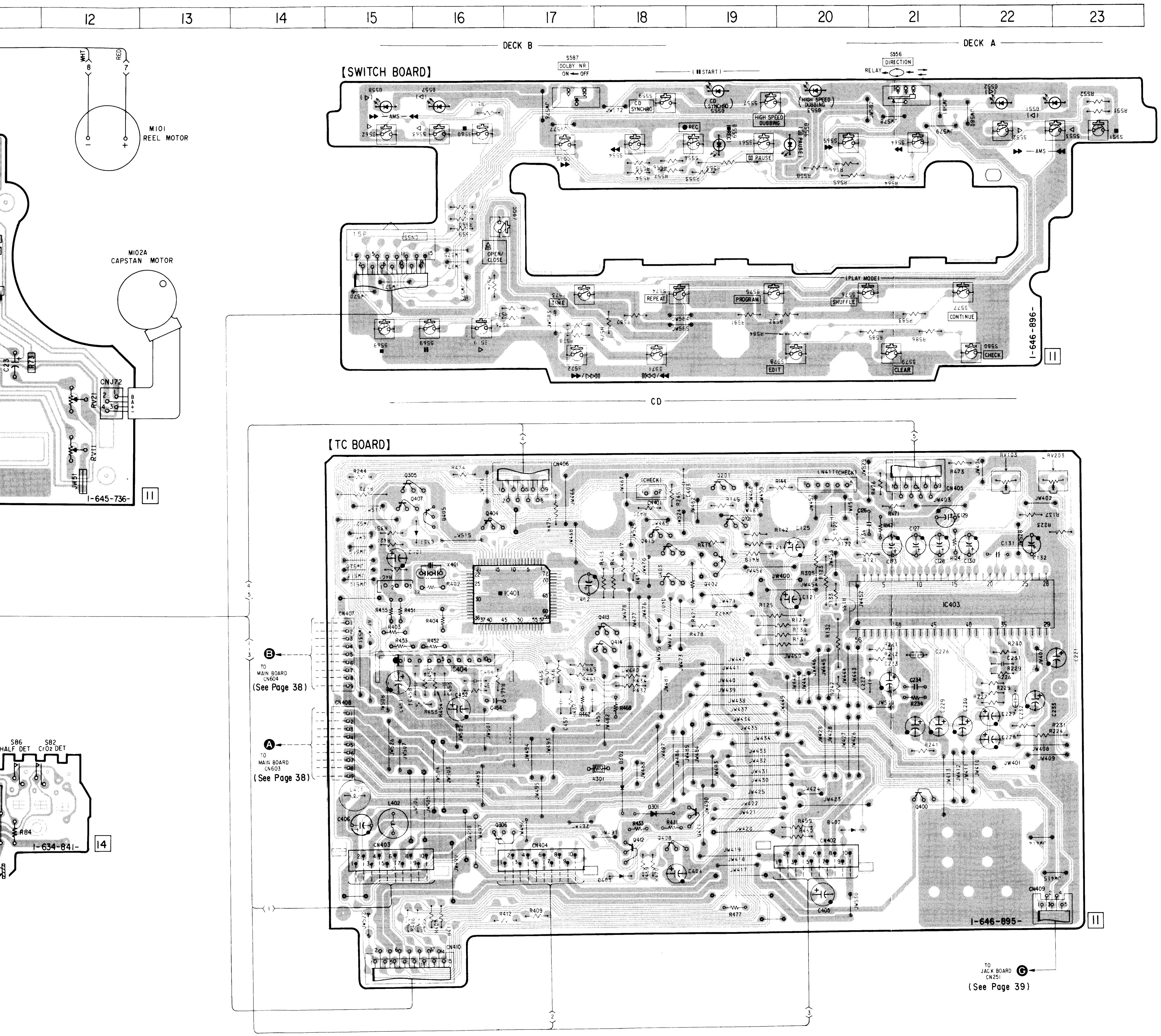
6-7. PRINTED WIRING BOARDS —TC Section—

• See page 31, 32 for Circuit Boards Location and Semico



· See page 31, 32 for Circuit Boards Location and Semiconductor Lead Layouts.




12
13
14
15
16
17
18
19
20
21
22
23
DECK B
DECK A
[SWITCH BOARD]
S587 DOLBY NR ON ← OFF
S556 DIRECTION
RELAY
(START)
CD SYNCHRO
HIGH SPEED DUBBING
REC
PAUSE
AMS
OPEN/CLOSE
(PLAY MODE)
TIME
REPEAT
PROGRAM
SHUFFLE
CONTINUE
CHECK
EDIT
CLEAR
1-646-896-
11
CD
M101 REEL MOTOR
M102A CAPSTAN MOTOR
CNJ72
1-645-736-
11
[TC BOARD]
IC401
IC403
IC404
CN406
CN405
CN407
CN408
CN403
CN404
CN402
CN409
CN410
TO MAIN BOARD CN604 (See Page 38)
TO MAIN BOARD CN603 (See Page 38)
TO JACK BOARD CN251 (See Page 39)
1-646-895-
11
S86 HALF DET
S82 CrO2 DET
1-634-841-
14

【TC BOARD】

【SWITCH BOARD】

IC403 REC/PB AMP. AMS DOLBY NR

IC401 MS0964-260FPK DECK CONTROL

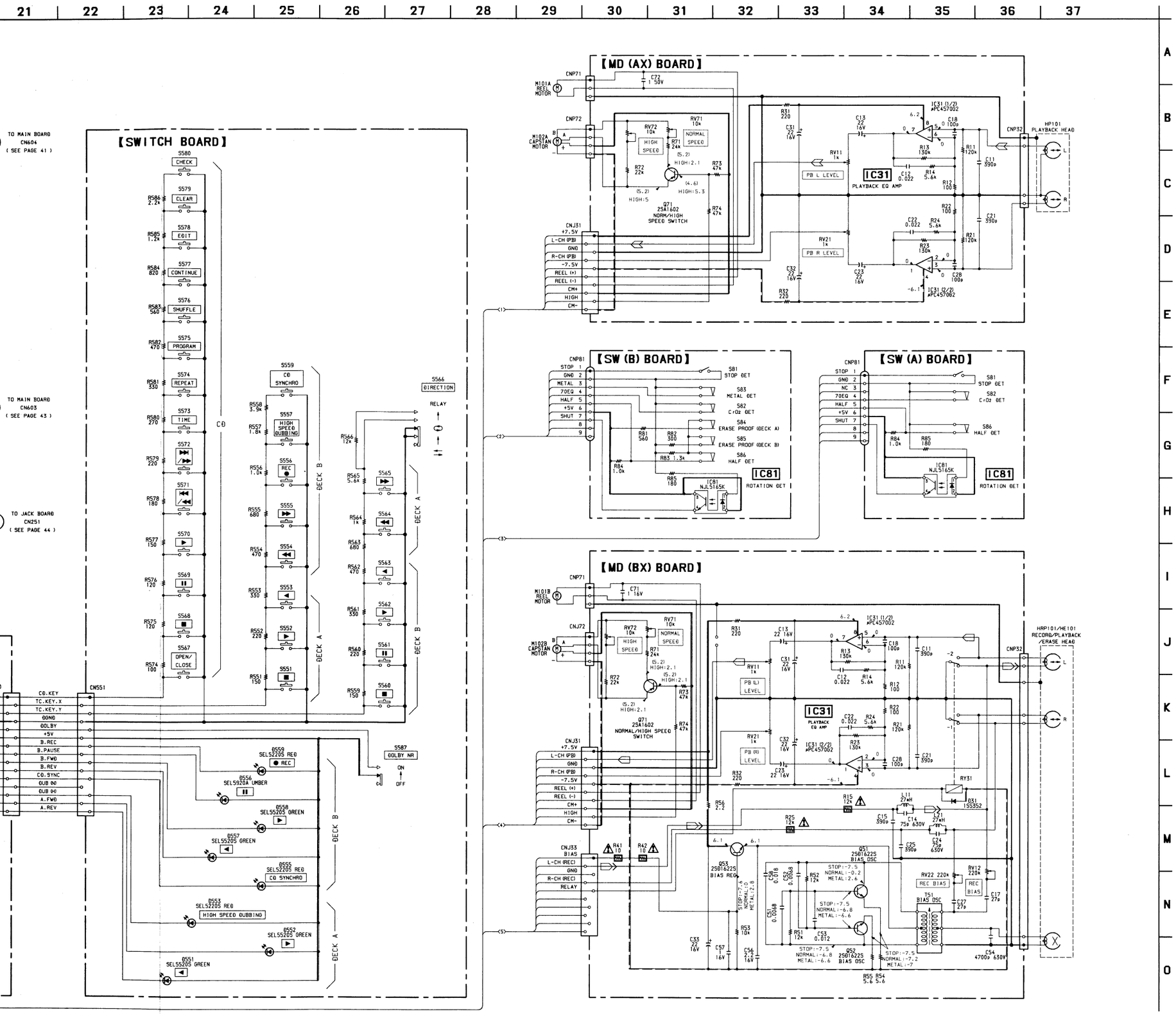
IC402 RESET

IC404 MOTOR DRIVE

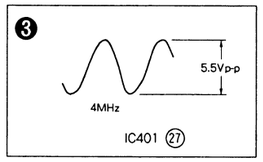
TO MAIN BOARD CN604 (SEE PAGE 41)

TO MAIN BOARD CN603 (SEE PAGE 43)

TO JACK BOARD CN251 (SEE PAGE 44)



- **Waveform**



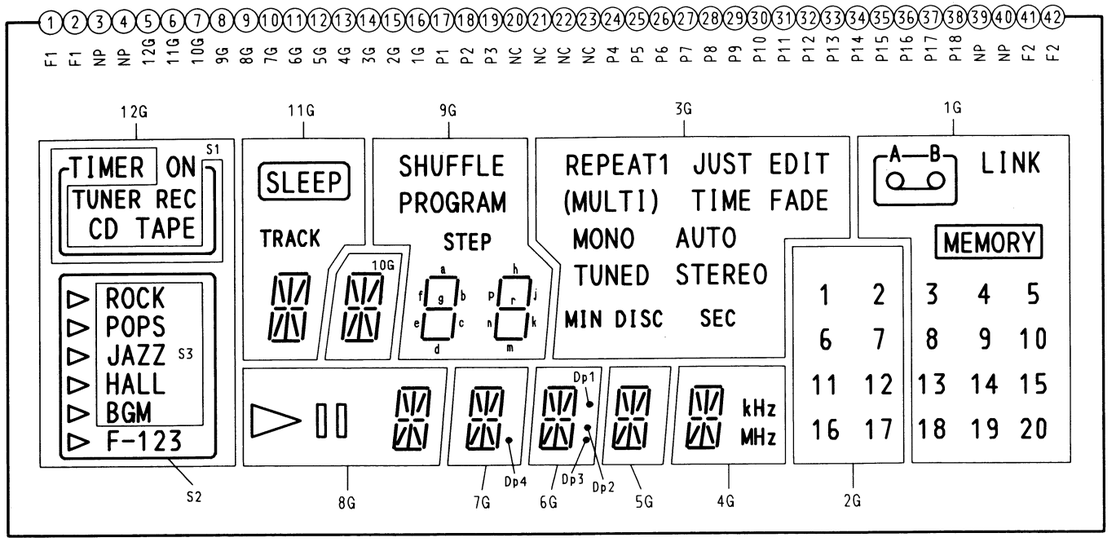
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ⚠ : nonflammable resistor.
- ⚠ : fusible resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

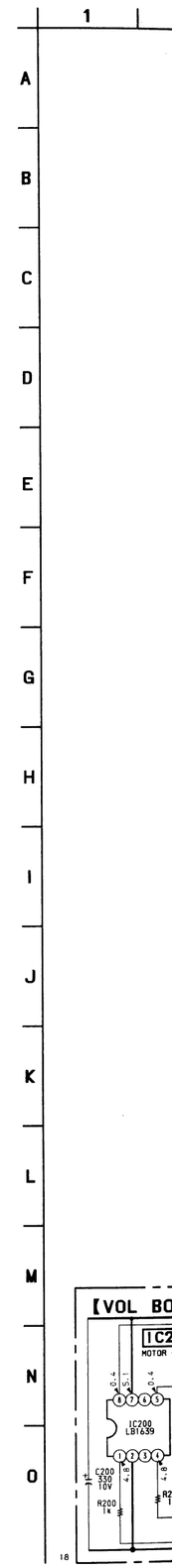
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ▷ : PB (DECK A)
  ▷ : PB (DECK B)
  ⇨ : FM
  ▷» : REC (DECK B)

FL501 LIQUID CRYSTAL DISPLAY PANEL (SEGMENT)

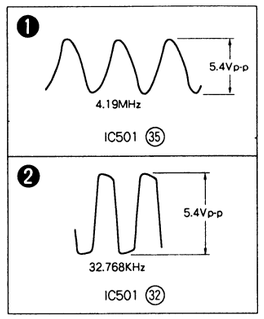


FL501 LIQUID CRYSTAL DISPLAY PANEL (ANODE CONNECTION)

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G
P1	⊂⊃		REPEAT	a	a	a	a	a	a	a	a	S1
P2	MEMORY		JUST	b	b	b	b	b	b	b	b	CD
P3	20		MONO	c	c	c	c	c	c	c	c	▷ (POPS)
P4	14	12	STEREO	d	d	d	d	d	d	d	d	▷ (F-123)
P5	4	2	TIME	e	e	e	e	e	e	e	e	▷ (JAZZ)
P6	5		EDIT	f	f	f	f	f	f	f	f	TAPE
P7	10		DSC	g	g	g	g	g	g	g	g	S2
P8	B		(MULTI)	h	h	h	h	h	h	h	h	TUNER
P9	A		MIN	j	j	j	j	j	j	j	j	ON
P10	LINK		1	k	k	k	k	k	k	k	k	REC
P11	15		TUNED	m	m	m	m	m	m	m	m	▷ (ROCK)
P12	9	7	AUTO	n	n	n	n	n	n	n	n	S3
P13	8	6	SEC	p	p	p	p	p	p	p	p	▷ (BGM)
P14	3	1	FADE	r	r	r	r	r	r	r	r	▷ (HALL)
P15	18	16		kHz		Dp1	Dp4	▷	SHUFFLE		SLEEP	2
P16	19	17		MHz		Dp2		▯▯	PROGRAM		TRACK	1
P17	13	11				Dp3			STEP			F-
P18												3



• **Waveforms**



Note:

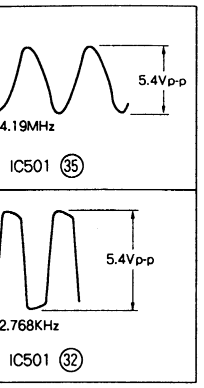
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- ⊣▭⊢ : nonflammable resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▬ ▬ ▬ : B– Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

CND : Canadian EE :East European
G : Germany MY : Malaysia
IT : Italian SP : Singapore
AUS : Australian JE :Tourist
EA : Saudi Arabia

rms



F: μμF
lytics

erwise

par
ques

une
éci-

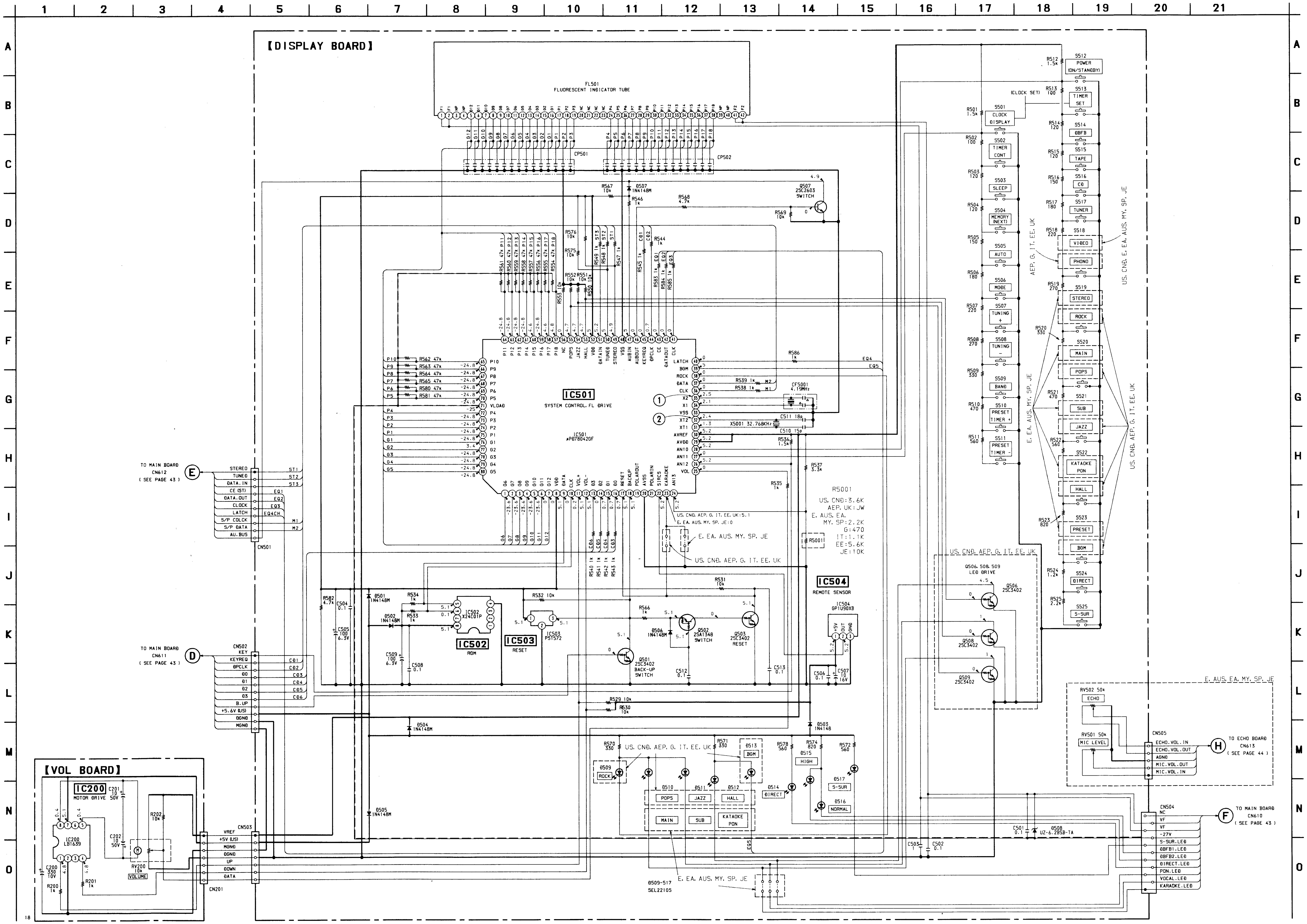
round

DM Ω).
oduc-

oduc-

6-9. SCHEMATIC DIAGRAMS –DISPLAY Section–

• See page 33 for IC Block Diagrams.



• **Semiconductor Location**

Ref. No.	Location
D501	B-9
D502	B-10
D503	C-11
D504	C-6
D505	C-6
D506	A-11
D507	A-7
D508	D-6
D509	D-10
D510	D-10
D511	D-8
D512	D-8
D513	D-7
D514	E-7
D515	E-11
D516	D-12
D517	E-6
IC200	D-1
IC501	B-8
IC502	B-10
IC503	A-10
IC504	A-11
0501	B-9
0502	A-10
0503	B-9
0506	D-8
0507	A-7
0508	C-8
0509	C-8

【DISPLAY BOARD】

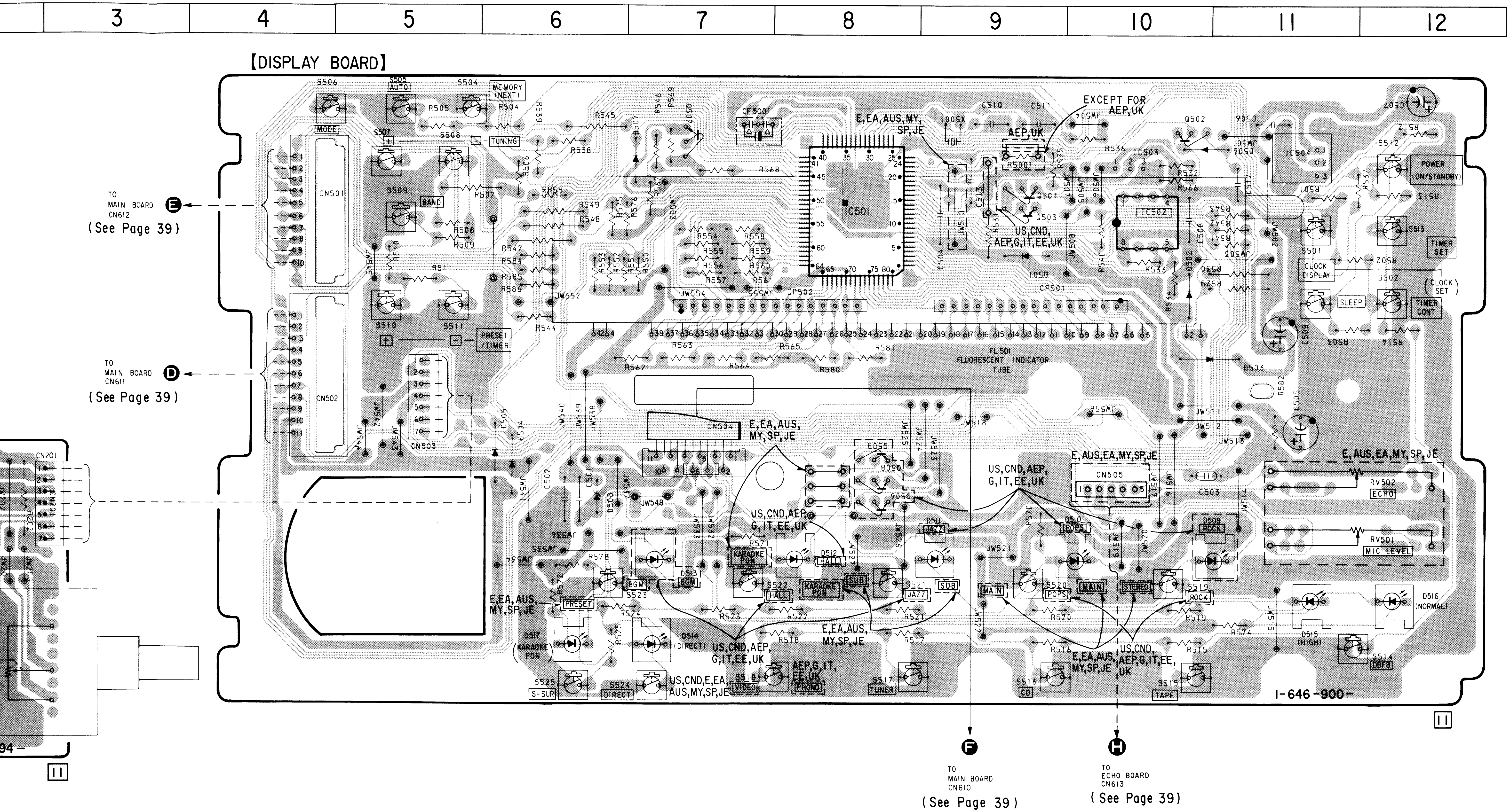
【VOL BOARD】

Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.

CND : Canadian
G : Germany
IT : Italian
AUS : Australian
EA : Saudi Arabia
EE : East European
MY : Malaysia
SP : Singapore
JE : Tourist

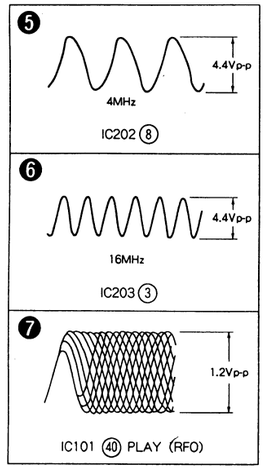
SPLAY Section— · See page 31, 32 for Circuit Boards Location and Semiconductor Lead Layouts.



6-11. SCHEMATIC DIAGRAMS —CD Section—

• See page 33 for IC Block Diagrams.

• **Waveforms**

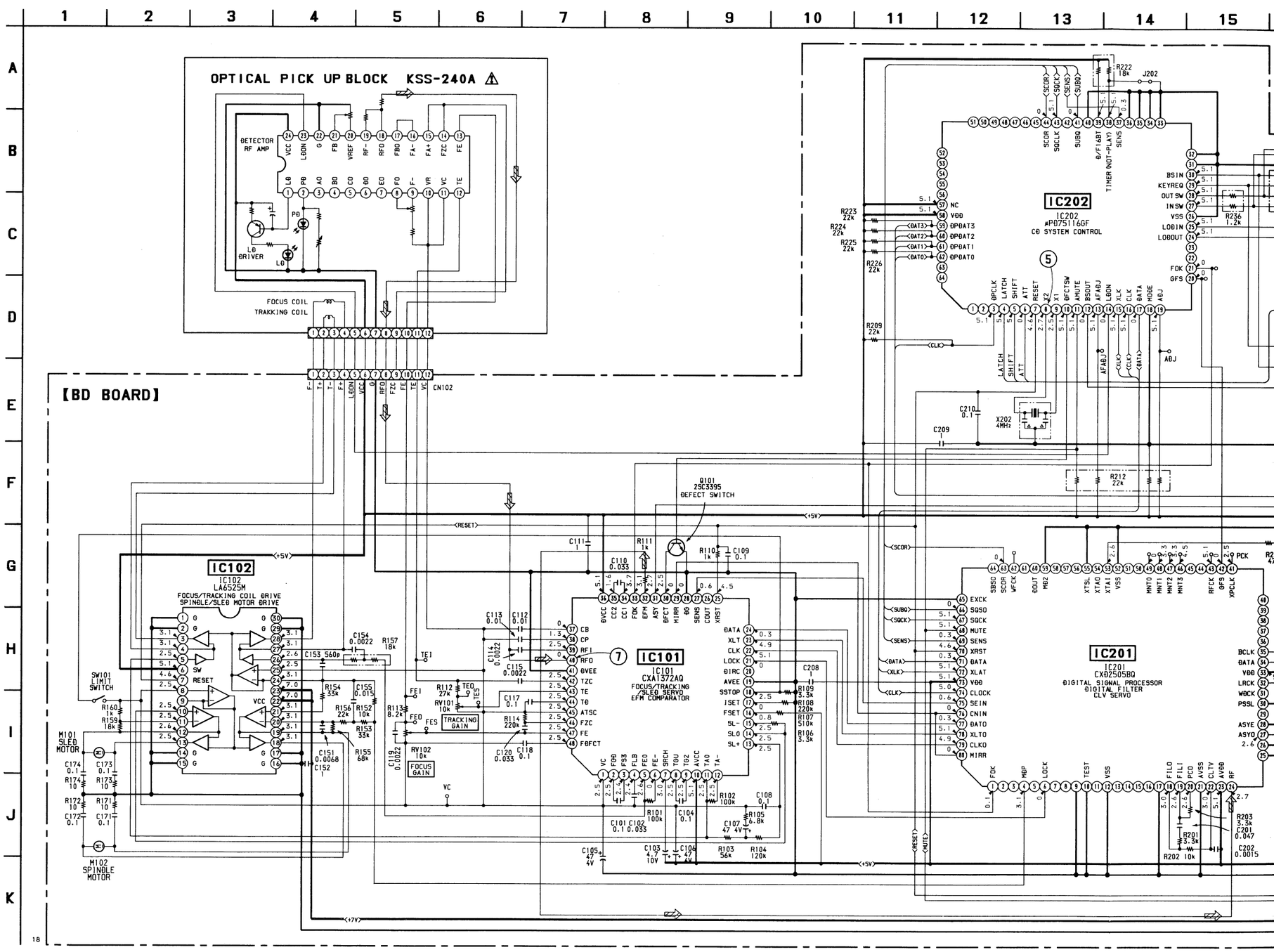


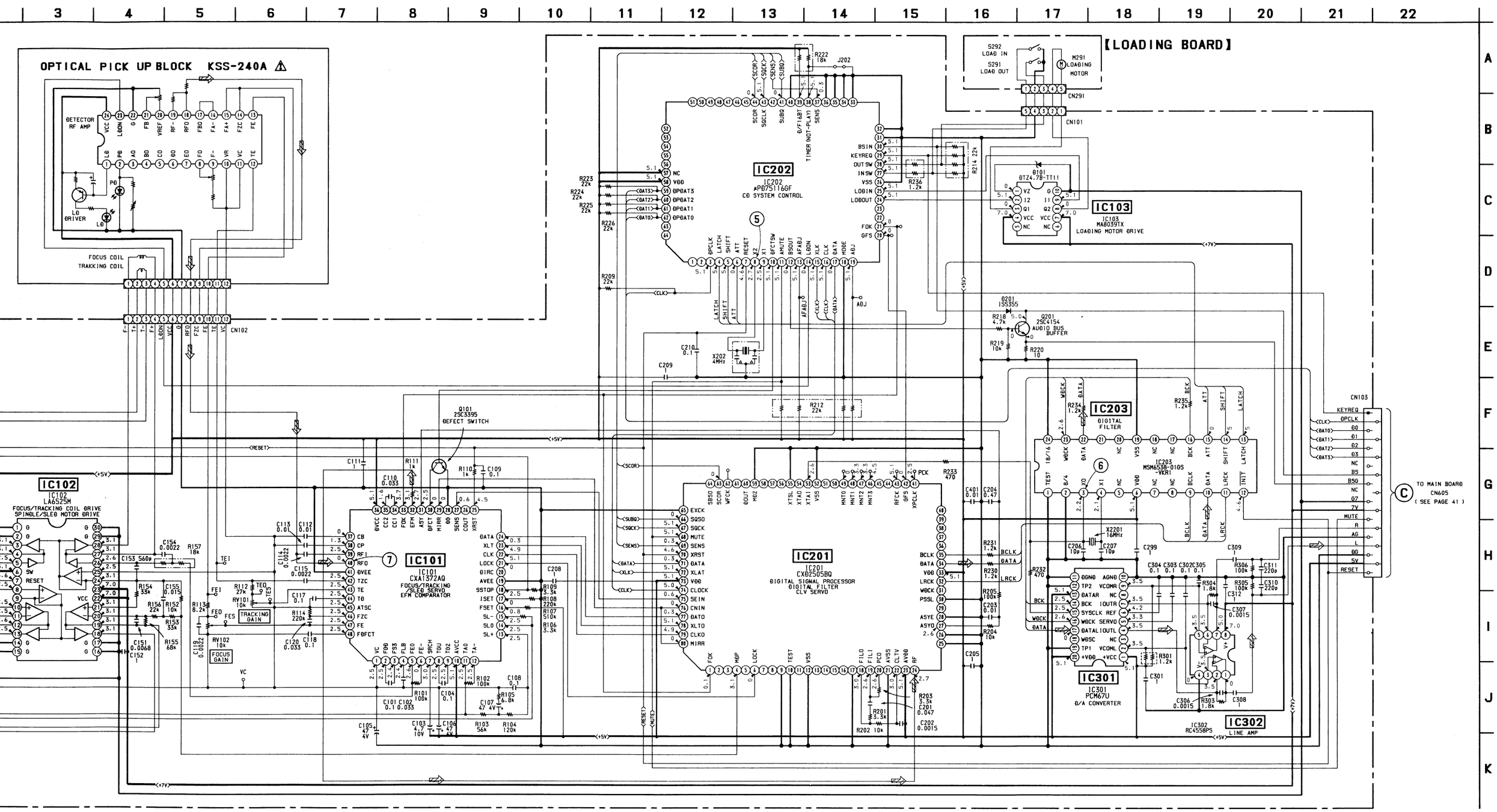
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▬ ▬ : B– Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD



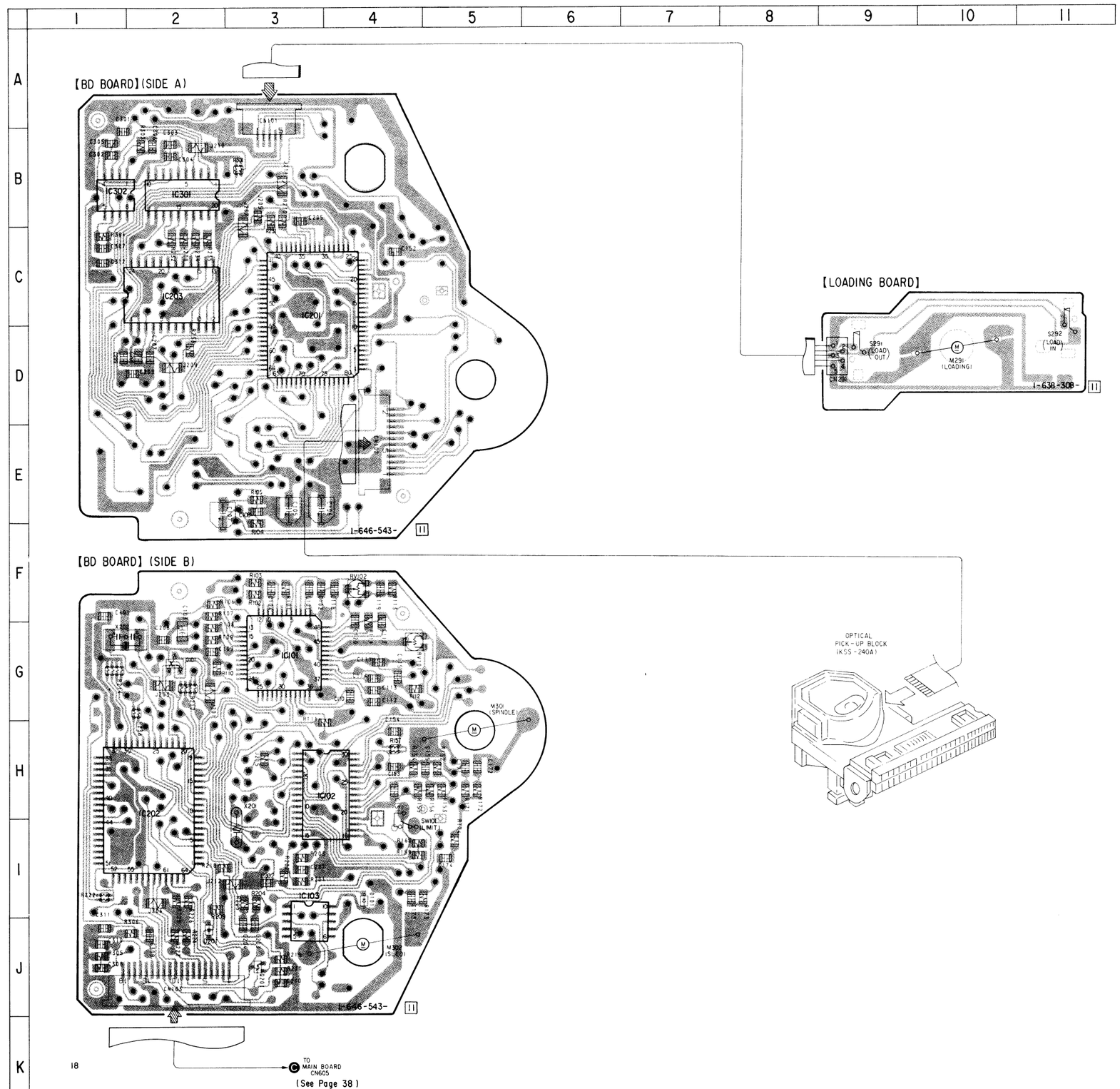

OPTICAL PICK UP BLOCK KSS-240A
【LOADING BOARD】
IC102
LA6525M
FOCUS/TRACKING COIL DRIVE
SPINDLE/SLED MOTOR DRIVE
IC101
CXA1372AQ
FOCUS/TRACKING
/SLED SERVO
EFM COMPARATOR
IC202
μPD75116GF
CD SYSTEM CONTROL
IC201
CXD2505BQ
DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER
CLV SERVO
IC203
MSM6598-010GS
-YKR1
DIGITAL
FILTER
IC301
PCM67U
D/A CONVERTER
IC302
RC4558PS
LINE AMP
IC103
MA8039TX
LOADING MOTOR DRIVE
Q101
2SC3395
DEFECT SWITCH
Q201
2SC4154
AUDIO BUS
BUFFER
D201
1S5355
D101
BTZ4.7B-TT11
S292
LOAD IN
S291
LOAD OUT
M291
LOADING
MOTOR
CN291
CN101
CN102
CN103
FOCUS COIL
TRAKKING COIL
TRACKING
GAIN
FOCUS
GAIN
TO MAIN BOARD
CN605
(SEE PAGE 41)

6-12. PRINTED WIRING BOARDS —CD Section—

• See page 31, 32 for Circuit Boards Location and Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D101	I-4
D201	J-2
IC101	G-3
IC102	H-3
IC103	I-3
IC201	C-3
IC202	H-2
IC203	C-2
IC301	B-2
IC302	B-1
Q101	G-2
Q201	J-3



Note:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- ▒ : Pattern from the side which enables seeing.
  (The other layers patterns are not indicated.)

SECTION 7
EXPLODED VIEWS

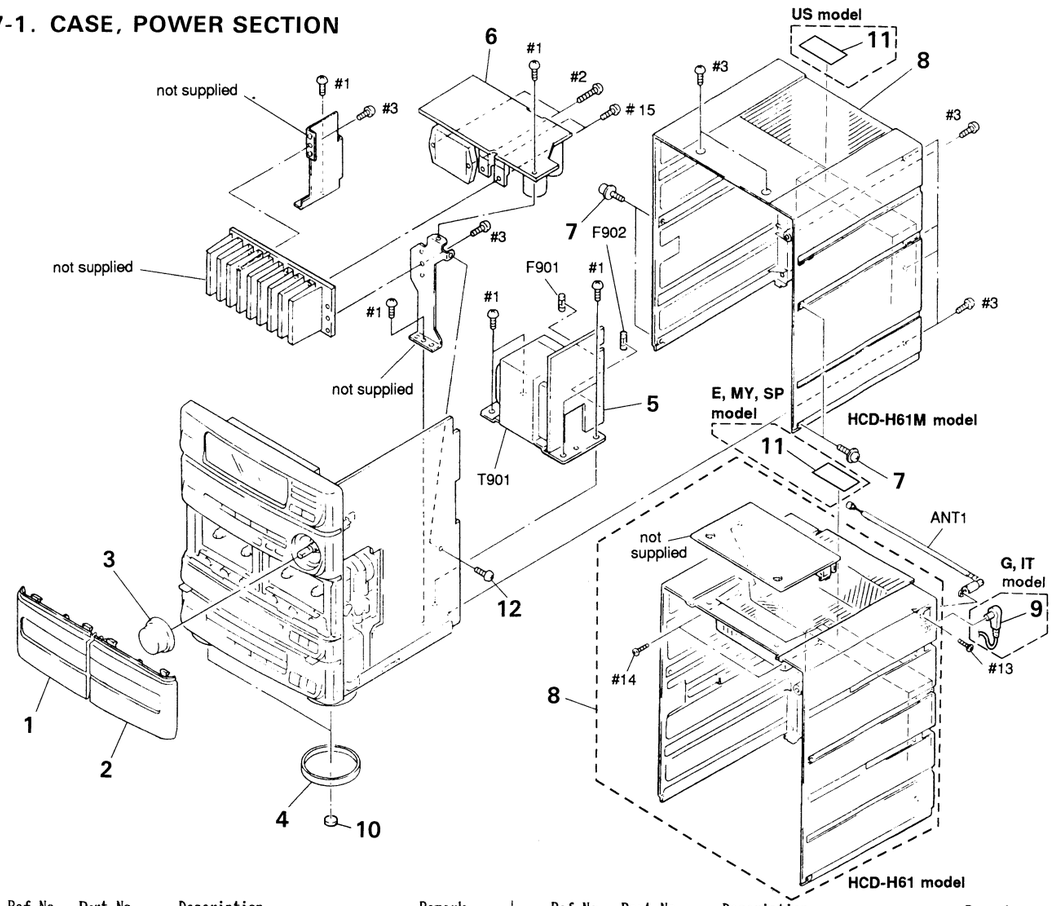
NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardwear (#mark) list is given in the last of this parts list.
- Abbreviations

CND:Canadian	AUS:Australian	MY:Malaysia
G:Germany	EA:Saudi Arabia	SP:Singapore
IT:Italian	EE:East European	JE:Tourist

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

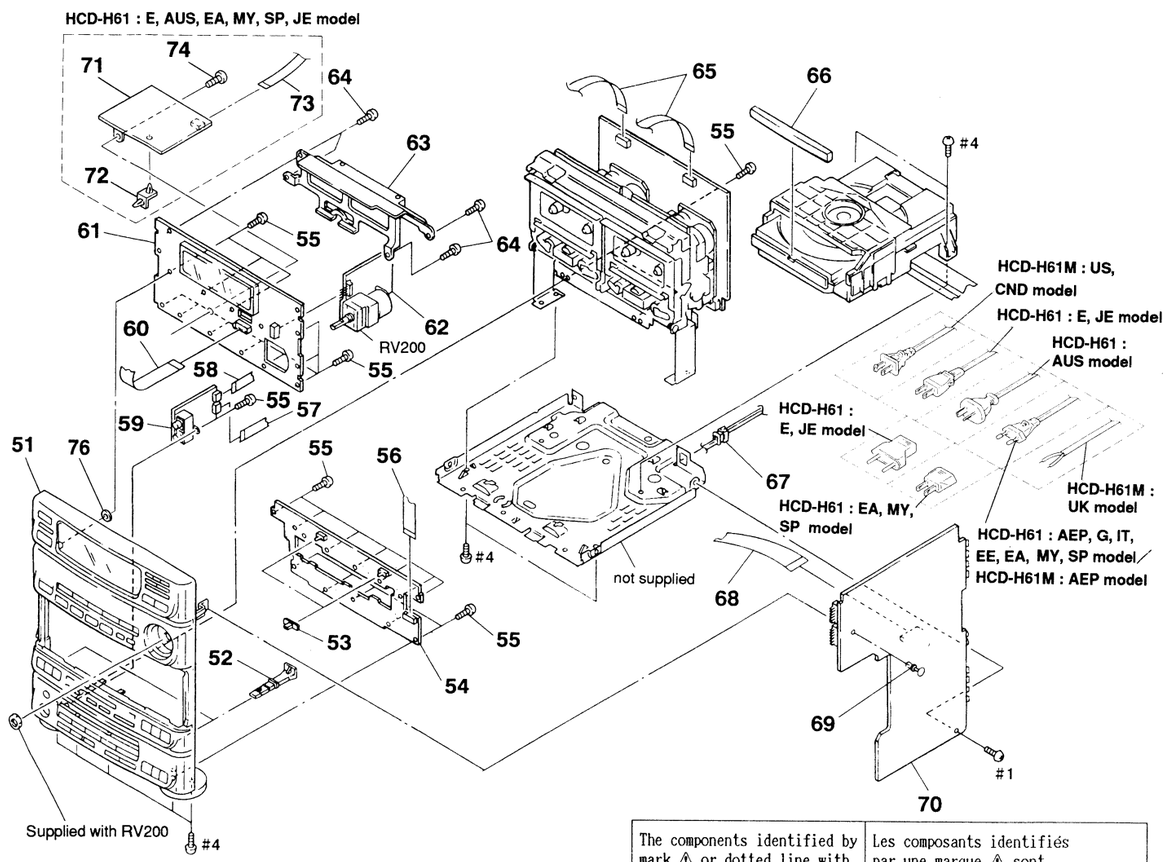
Les components identifiés parune marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par unepièc portant le numéro spéccifié.

7-1. CASE, POWER SECTION



Ref. No.	Part No.	Description	Remark
1	X-4943-259-1	LID (A) ASSY, CASSETTE	
2	X-4943-260-1	LID (B) ASSY, CASSETTE	
3	4-956-480-01	KNOB (VOLUME)	
4	4-936-827-12	ORNAMENT (FOOT)	
* 5	1-646-898-11	POWER SUPPLY BOARD	
* 6	A-4356-568-A	POWER AMP BOARD, COMPLETE	(EXCEPT E, IT, G)
* 6	A-4356-574-A	POWER AMP BOARD, COMPLETE	(G, IT)
* 6	A-4356-577-A	POWER AMP BOARD, COMPLETE	(E)
7	3-704-366-01	SCREW (CASE) (M3X8)	
* 8	4-956-499-01	CASE	(HCD-H61M)
8	X-4943-266-1	CASE ASSY	(E, EA, MY, SP, JE)
8	X-4943-269-1	CASE ASSY	(AUS)
8	X-4943-270-1	CASE ASSY	(HCD-H61:AEP, G, IT, EE)
9	1-501-594-21	ANTENNA (FM)	(G, IT)
10	3-319-288-01	FOOT	
* 11	4-950-766-01	LABEL, FCC DIGITAL DEVICE	(US)
* 11	4-956-491-01	LABEL, FCC DIGITAL DEVICE	(E, MY, SP)
12	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
ANT1	1-501-321-51	ANTENNA, TELESCOPIC	(HCD-H61)
⚠F901	1-532-078-00	FUSE (T1A/250V)	(HCD-H61/HCD-H61M:AEP, UK)
⚠F901	1-576-107-11	FUSE (3.15A/250V)	(US, CND)
⚠F902	1-532-203-00	FUSE (T2A/250V)	(E, EA, MY, SP, JE)
⚠T901	1-423-447-11	TRANSFORMER, POWER	(US, CND)
⚠T901	1-423-448-11	TRANSFORMER, POWER	(AUS, UK)
⚠T901	1-423-450-11	TRANSFORMER, POWER	(AEP, G, IT, EE)
⚠T901	1-423-451-11	TRANSFORMER, POWER	(E, EA, MY, SP, JE)

7-2. FRON PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-4943-257-1	PANEL ASSY, FRONT	(E, AUS, EA, MY, SP, JE)
51	X-4943-258-1	PANEL ASSY, FRONT	(HCD-H61:AEP, G, IT, EE)
51	X-4943-267-1	PANEL ASSY, FRONT	(HCD-H61M:AEP, UK)
51	X-4943-271-2	PANEL ASSY, FRONT	(US, CND)
52	4-956-477-01	BUTTON (TC), EJECT	
53	4-956-476-01	KNOB (DIRECTION/DOLBY)	
* 54	A-4356-584-A	SWITCH BOARD, COMPLETE	
55	4-951-620-01	SCREW (2.6X8), +BVTP	
56	1-696-922-11	WIRE (FLAT TYPE) (15 CORE)	
57	1-696-923-11	WIRE (FLAT TYPE) (5 OCRE)	
58	1-696-924-11	WIRE (FLAT TYPE) (5 CORE)	(US, CND)
* 59	1-646-897-11	JACK BOARD	
60	1-696-920-11	WIRE (FLAT TYPE) (11 CORE)	
* 61	A-4356-593-A	DISPLAY BOARD, COMPLETE	(UK)
* 61	A-4356-594-A	DISPLAY BOARD, COMPLETE	(US, CND)
* 61	A-4356-600-A	DISPLAY BOARD, COMPLETE	(AEP)
* 61	A-4356-601-A	DISPLAY BOARD, COMPLETE	(G)
* 61	A-4356-602-A	DISPLAY BOARD, COMPLETE	(IT)
* 61	A-4356-603-A	DISPLAY BOARD, COMPLETE	(E, AUS, EA, MY, SP)
* 61	A-4356-604-A	DISPLAY BOARD, COMPLETE	(EE)
* 61	A-4360-498-A	DISPLAY BOARD, COMPLETE	(JE)
* 62	1-646-894-11	VOL BOARD	
* 63	4-956-469-01	BRACKET (CASE)	
64	4-928-635-21	SCREW, +BV (2.6X10) TAPPING	
65	1-690-588-31	WIRE, FLAT TYPE (9 CORE)	
66	4-956-474-01	PANEL, LOADING	

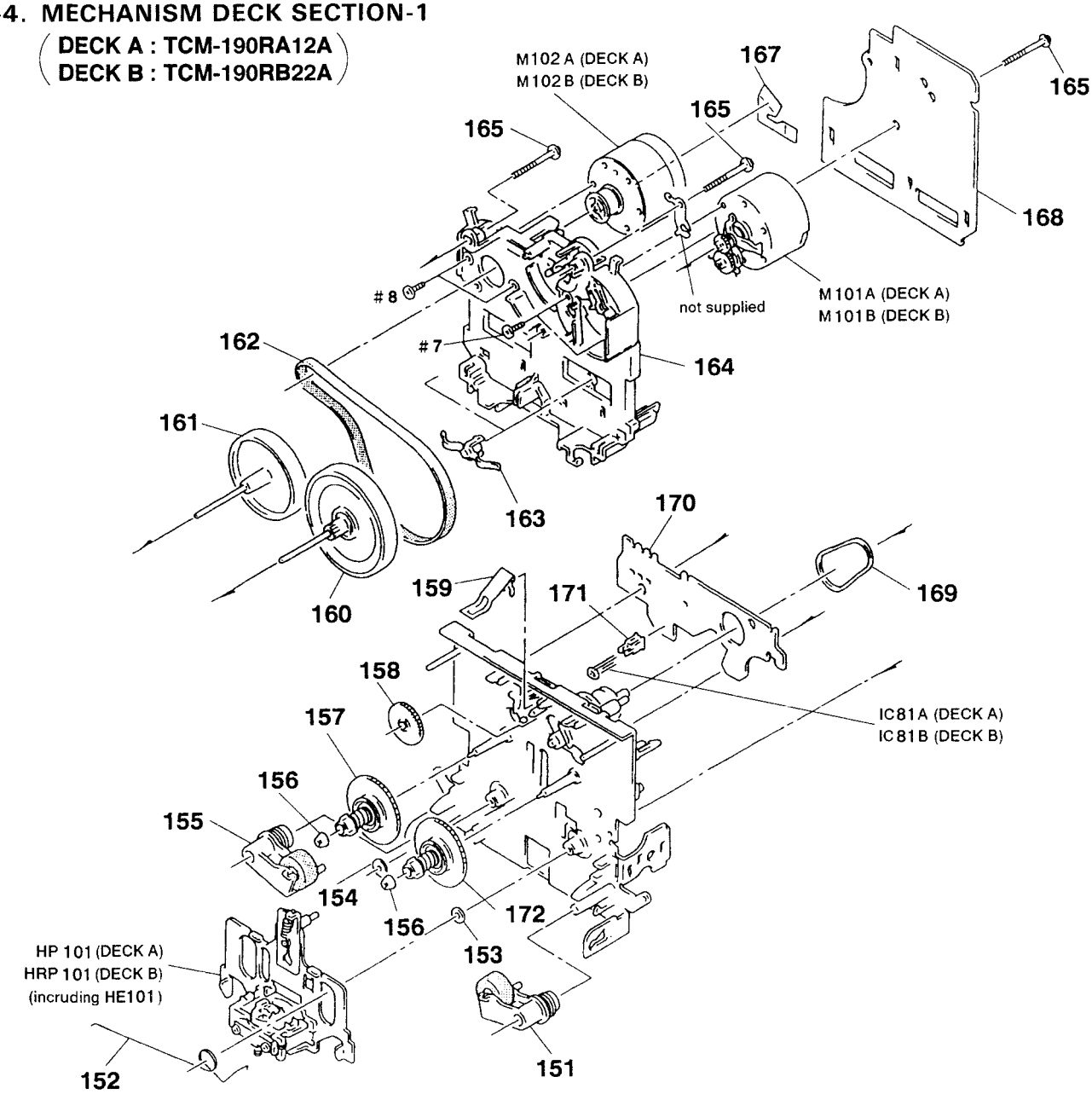
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 67	3-703-244-00	BUSHING (2104), CORD	(EXCEPT E, JE)
* 67	3-703-571-11	BUSHING (S) (4516), CORD	(E, JE)
68	1-696-921-11	WIRE (FLAT TYPE) (19 CORE)	
69	4-812-134-00	RIVET NYLON, 3.5	
* 70	A-4356-559-A	MAIN BOARD, COMPLETE	(HCD-H61M:AEP, UK)
* 70	A-4356-561-A	MAIN BOARD, COMPLETE	(US, CND)
* 70	A-4356-569-A	MAIN BOARD, COMPLETE	(HCD-H61:AEP)
* 70	A-4356-570-A	MAIN BOARD, COMPLETE	(G, IT)
* 70	A-4356-571-A	MAIN BOARD, COMPLETE	(EE)
* 70	A-4356-572-A	MAIN BOARD, COMPLETE	(E, AUS, EA, MY, SP)
* 70	A-4360-497-A	MAIN BOARD, COMPLETE	(JE)
* 71	A-4356-599-A	ECHO BOARD, COMPLETE	(E, AUS, EA, MY, SP, JE)
* 72	4-922-413-01	HOLDER, PC BOARD	(E, AUS, EA, MY, SP, JE)
73	1-696-919-11	WIRE (FLAT TYPE) (5 CORE)	(E, AUS, EA, MY, SP, JE)
74	4-951-620-01	SCREW (2.6X8), +BVTP	(E, AUS, EA, MY, SP, JE)
⚠75	1-569-007-11	ADAPTER, CONVERSION 2P	(E, JE)
⚠75	1-569-008-11	ADAPTER, CONVERSION 2P	(EA, MY, SP)
76	4-949-302-41	WASHER	
⚠CNP901	1-574-902-11	CORD, POWER	(E, JE)
⚠CNP901	1-575-975-11	CORD, POWER	(US, CND)
⚠CNP901	1-590-083-11	CORD, POWER	(AUS)
⚠CNP901	1-696-169-11	CORD, POWER	(AEP, G, IT, EE, EA, MY, SP)
⚠CNP901	1-696-570-21	CORD, POWER	(UK)
RV200	1-223-301-11	RES, VAR, CARBON (WITH MOTOR) (VOLUME)	

7-4. MECHANISM DECK SECTION-1

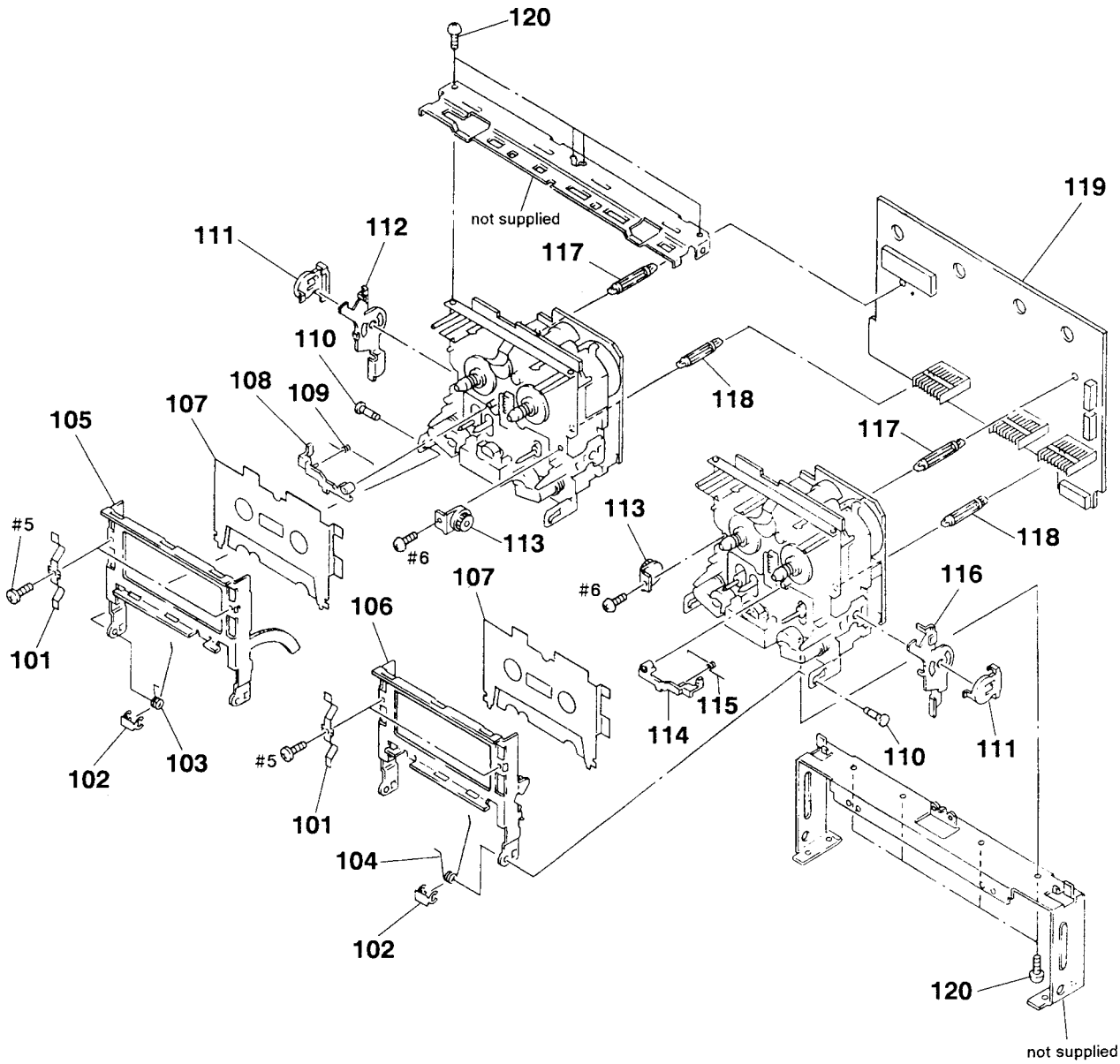
(DECK A : TCM-190RA12A)
(DECK B : TCM-190RB22A)



Ref. No.	Part No.	Description	Remark
151	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
152	3-359-455-01	SPRING, TORSION	
153	3-356-713-01	WASHER	
154	3-356-714-01	WASHER	
155	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
156	3-362-308-01	CAP (REEL)	
157	X-3362-078-1	TABLE ASSY (B), REEL	
158	3-359-424-01	GEAR (REV GEAR)	
159	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
160	X-3359-406-1	FLYWHEEL (FWD) ASSY	
161	X-3359-410-1	FLYWHEEL (REV) ASSY	
162	3-359-417-01	BELT (FLAT), CAPSTAN	
163	3-575-321-00	RETAINER, THRUST, CAPSTAN	
* 164	3-359-436-01	BASE (THRUST RETAINER), FITTING	
165	3-359-414-01	SCREW (+PTPWH 2X23)	
167	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	

Ref. No.	Part No.	Description	Remark
* 168	A-2006-399-A	MD (AX) BOARD, COMPLETE (DECK A)	
* 168	A-2006-400-A	MD (BX) BOARD, COMPLETE (DECK B)	
169	3-359-466-01	BELT (FR), SQUARE	
* 170	1-634-841-14	SW (A) BOARD (DECK A)	
* 170	1-634-841-14	SW (B) BOARD (DECK B)	
171	3-343-419-01	HOLDER (S SENSER A)	
172	X-3359-404-1	TABLE ASSY, REEL	
HP101	A-2003-837-F	BASE ASSY, HEAD (DECK A)	
HRP101	A-2003-838-A	DECK ASSY, HEAD (DECK B) (incruding HE101)	
IC81A	8-719-710-03	DIODE NJL5165K-B (DECK A)	
IC81B	8-719-710-03	DIODE NJL5165K-B (DECK B)	
M101A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M101B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
M102A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M102B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	

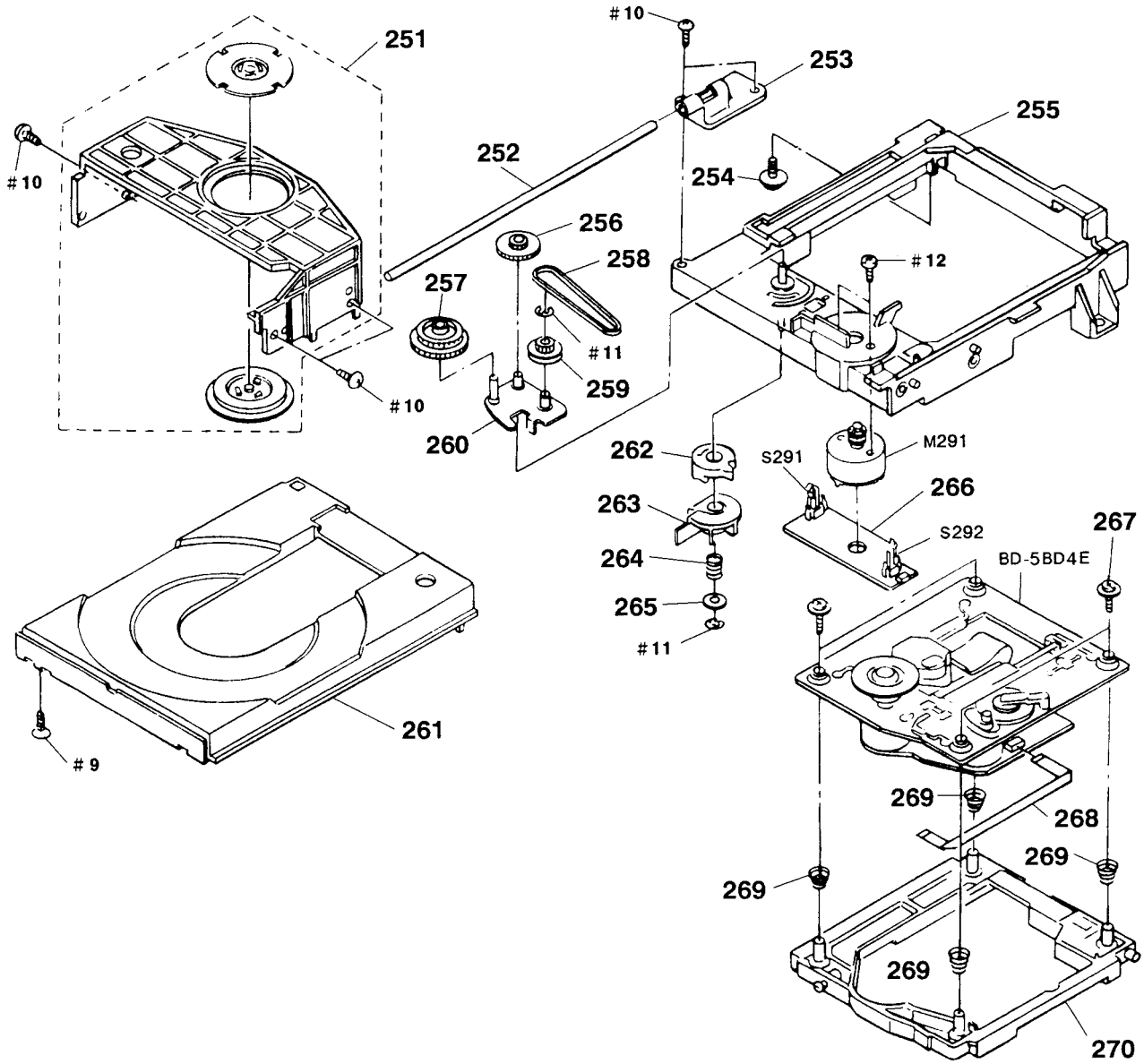
7-3. MECHANISM DECK CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	3-340-137-01	SPRING, CASSETTE RETAINER	
102	3-367-720-01	RING (W), RETAINING	
103	3-354-959-01	SPRING (LOADING L), TORSION	
104	3-354-960-01	SPRING (LOADING R), TORSION	
105	X-3362-857-1	HOLDER (L) ASSY, CASSETTE	
106	X-3362-856-1	HOLDER (R) ASSY, CASSETTE	
107	3-367-711-01	RETAINER, CASSETTE	
108	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
109	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
110	3-367-721-01	SHAFT (FULCRUM SHAFT)	

Ref. No.	Part No.	Description	Remark
111	3-354-957-01	JOINT (LOCK LEVER)	
* 112	3-367-709-01	LEVER (LOCK LEVER L)	
113	3-354-963-01	DAMPER	
114	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
115	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
* 116	3-367-710-01	LEVER (LOCK LEVER R)	
* 117	3-682-419-31	HOLDER, P.C.B	
* 118	3-682-419-21	HOLDER, P.C.B	
* 119	A-4356-586-A	TC BOARD, COMPLETE	
120	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	

7-6. CD MECHANISM SECTION-1
(CDM13B-5BD4E)

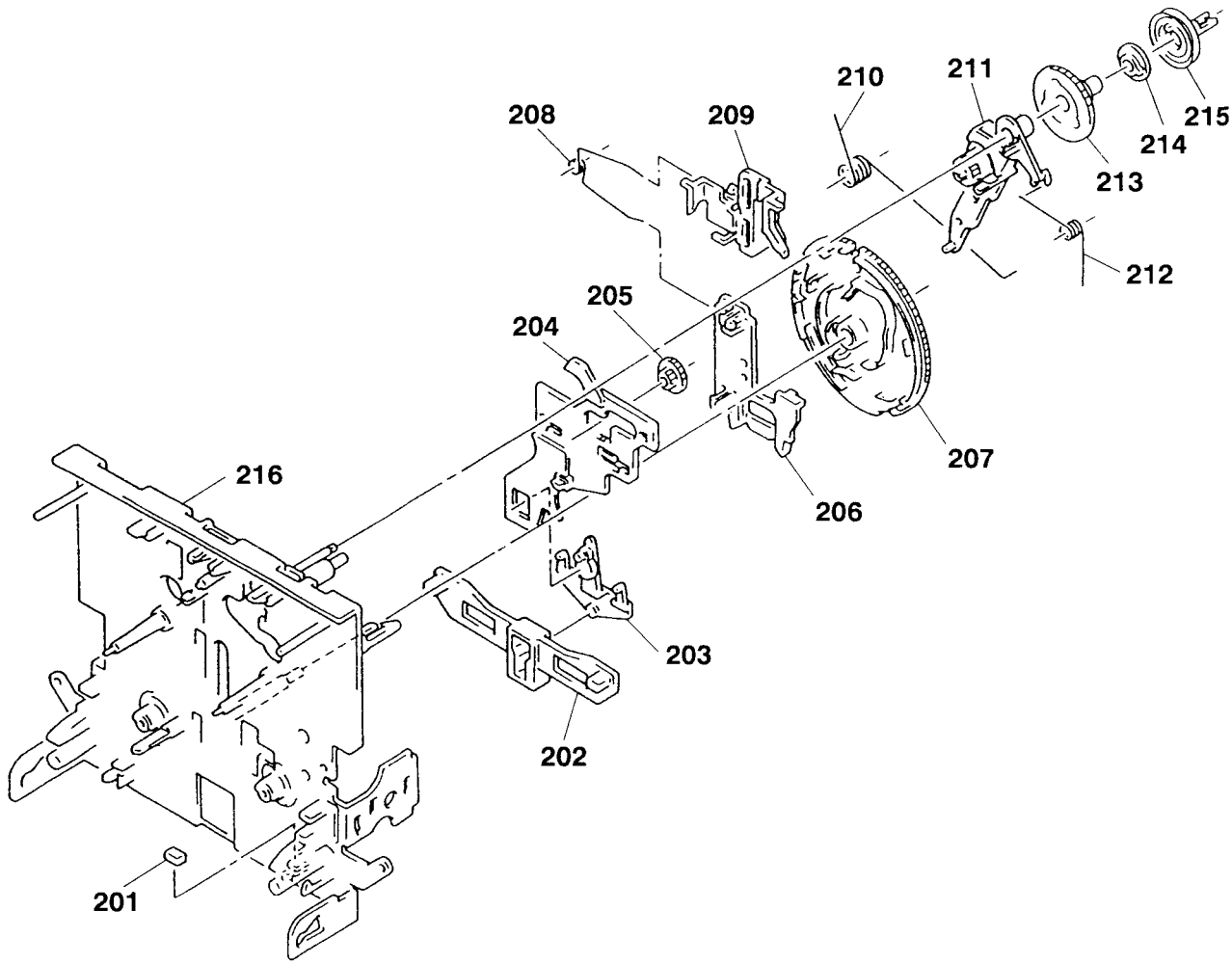


Ref. No.	Part No.	Description	Remark
251	A-4604-752-A	HOLDER (MG) ASSY	
252	4-929-764-01	SHAFT (TABLE GUIDE)	
253	4-944-006-01	BEARING	
* 254	4-917-583-21	BRACKET, YOKE	
255	X-4941-462-1	CHASSIS (MD) ASSY	
256	4-927-628-01	GEAR (C)	
257	4-927-620-01	GEAR (P)	
258	4-927-649-01	BELT	
259	4-929-724-01	PULLEY (B)	
260	X-4929-703-1	ARM ASSY, SWING	
261	4-944-012-01	TABLE, DISC	
262	4-929-727-01	CAM (A)	

Ref. No.	Part No.	Description	Remark
263	4-929-729-01	CAM (B)	
264	3-659-338-00	SPRING, COMPRESSION	
265	4-927-654-01	WASHER (LIMITER)	
* 266	1-638-308-11	LOADING BOARD	
267	4-933-134-01	SCREW (+PTPWH M2.6X6)	
268	1-590-530-11	WIRE, FLAT TYPE	
269	4-917-541-01	SPRING (B)	
270	4-929-747-01	HOLDER (BU)	
M291	A-4608-362-A	MOTOR (L) ASSY (LOADING)	
S291	1-571-924-11	SWITCH LEAF (LOAD OUT)	
S292	1-571-924-11	SWITCH LEAF (LOAD IN)	

7-5. MECHANISM DECK SECTION-2

(DECK A : TCM-190RA12A)
(DECK B : TCM-190RB22A)



Ref. No.	Part No.	Description	Remark
201	3-359-469-01	SPACER	
* 202	3-359-425-01	SLIDER (REVERSE SLIDER)	
203	3-359-426-01	LEVER (REVERSE LEVER)	
* 204	3-359-415-01	SLIDER (TRIGGER SLIDER)	
205	3-359-448-01	GEAR (TRIGGER)	
* 206	3-359-427-01	SLIDER (LEVERSE SLIDER)	
207	3-359-420-01	GEAR (CAM GEAR)	
208	3-359-454-01	SPRING, TORSION	

Ref. No.	Part No.	Description	Remark
209	3-359-429-01	SLIDER (BRAKE PLATE)	
210	3-359-456-01	SPRING(TRIGGER SPRING), TORSION	
211	X-3359-405-1	LEVER (FR ARM) ASSY	
212	3-359-453-01	SPRING (FR ARM), TORSION	
213	3-359-419-01	GEAR (FR GEAR)	
214	3-359-421-01	CLUTCH (REEL DISK)	
215	3-359-418-01	PULLEY (FR PULLEY)	
216	X-3363-790-1	CHASSIS ASSY, MECHANICAL	

SECTION 8
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- Abbreviations
  CND:Canadian AUS:Australian MY:Malaysia
  G:Germany EA:Saudi Arabia SP:Singapore
  IT:Italian EE:East Europian JE:Tourist

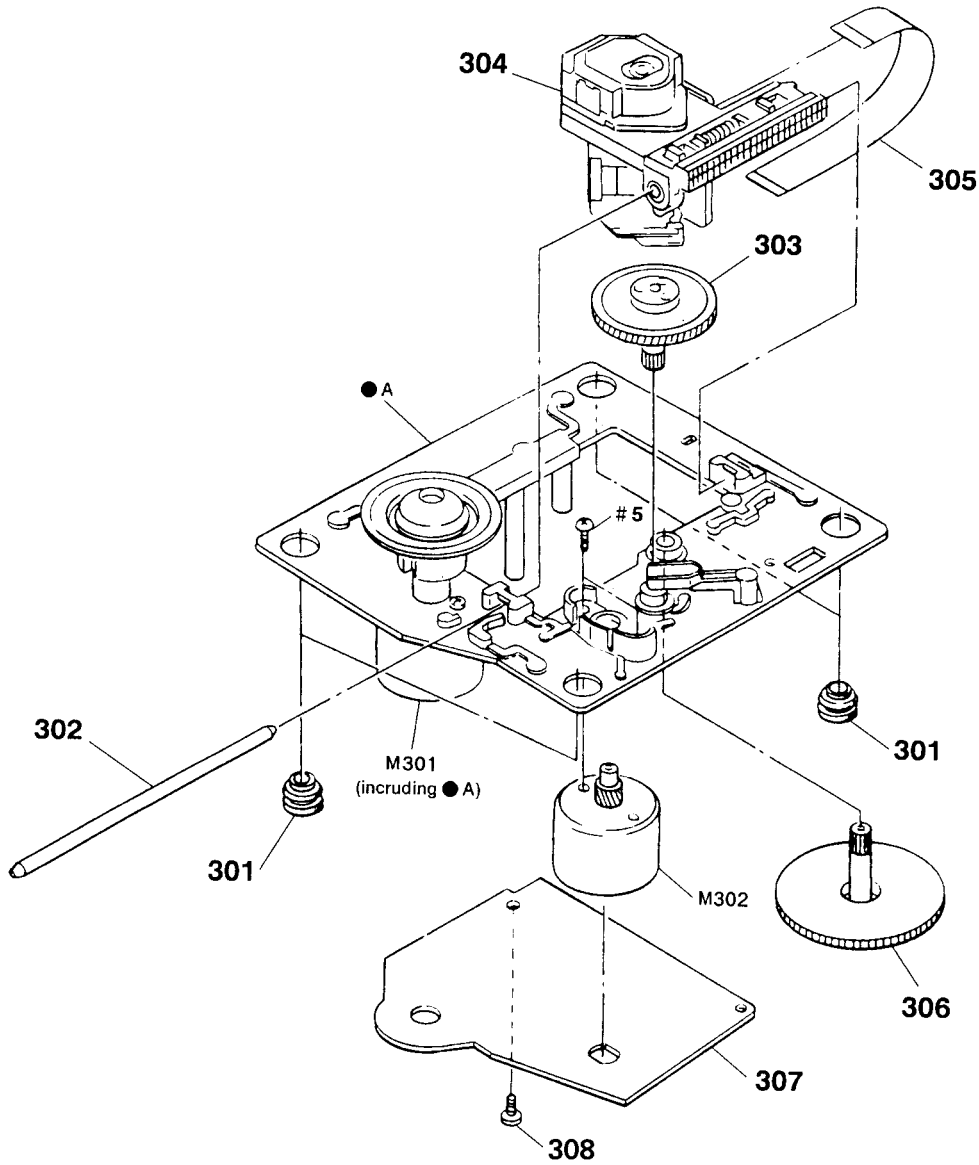
When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
*	A-4649-541-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C103	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C104	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C105	1-126-607-11	ELECT CHIP	47uF	20%	4V
C106	1-126-607-11	ELECT CHIP	47uF	20%	4V
C107	1-126-607-11	ELECT CHIP	47uF	20%	4V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C115	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C152	1-164-346-11	CERAMIC CHIP	1uF		16V
C153	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C154	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C201	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C202	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C203	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C204	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C205	1-164-346-11	CERAMIC CHIP	1uF		16V
C206	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C207	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C208	1-164-346-11	CERAMIC CHIP	1uF		16V
C209	1-164-346-11	CERAMIC CHIP	1uF		16V
C210	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C299	1-164-346-11	CERAMIC CHIP	1uF		16V
C301	1-164-346-11	CERAMIC CHIP	1uF		16V
C302	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C303	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C305	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C306	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C307	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C308	1-164-346-11	CERAMIC CHIP	1uF		16V
C309	1-164-346-11	CERAMIC CHIP	1uF		16V
C310	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C311	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C312	1-164-346-11	CERAMIC CHIP	1uF		16V
C401	1-164-232-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
CN101	1-580-858-11	SOCKET, CONNECTOR (SMT) 5P			
CN102	1-580-866-11	SOCKET, CONNECTOR (SMT) 12P			
CN103	1-580-872-41	SOCKET, CONNECTOR (SMT) 19P			
		< DIODE >			
D101	8-719-422-12	DIODE MA8039			
D201	8-719-016-74	DIODE 1SS352			
		< IC >			
IC101	8-752-053-73	IC CXA1372AQ			
IC102	8-759-823-48	IC LA6525M			
IC103	8-759-636-20	IC M54641FP			
IC201	8-752-352-93	IC CXD2500BQ			
IC202	8-759-059-86	IC uPD75116GF-F21-3BE			
IC203	8-759-098-27	IC MSM6538-01GS-VKR1			
IC301	8-759-155-52	IC PCM-67U-B			
IC302	8-759-996-43	IC RC4558PS			
		< JACK >			
J201	1-216-296-00	METAL CHIP	0	5%	1/8W

7-7. CD MECHANISM SECTION-2
(BU-5BD4E)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
301	4-933-126-01	INSULATOR (A)	
302	4-917-565-01	SHAFT, SLED	
303	4-917-567-01	GEAR (M)	
⚠304	8-848-144-11	DEVICE, OPTICAL KSS-240A	
305	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
306	4-917-564-01	GEAR (P), FLATNESS	
* 307	A-4649-541-A	BD (A) BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
M301	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M302	X-4917-504-1	MOTOR ASSY (SLED)	

DISPLAY

Ref. No.	Part No.	Description			Remark
C503	1-136-177-00	FILM	1uF	5%	50V
C504	1-164-159-11	CERAMIC	0.1uF		50V
C505	1-126-177-11	ELECT	100uF	20%	10V
C506	1-164-159-11	CERAMIC	0.1uF		50V
C507	1-126-157-11	ELECT	10uF	20%	16V
C508	1-164-159-11	CERAMIC	0.1uF		50V
C509	1-124-584-00	ELECT	100uF	20%	10V
C510	1-162-205-31	CERAMIC	18PF	5%	50V
C511	1-162-205-31	CERAMIC	18PF	5%	50V
C512	1-164-159-11	CERAMIC	0.1uF		50V
C513	1-164-159-11	CERAMIC	0.1uF		50V
		< VIBRATOR >			
CF5001	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)			
		< CONNECTOR >			
* CN501	1-569-156-11	SOCKET, CONNECTOR 10P			
* CN502	1-573-049-11	SOCKET, CONNECTOR 11P			
* CN503	1-566-969-11	HOUSING, CONNECTOR(PC BOARD) 7P			
* CN504	1-568-830-11	SOCKET, CONNECTOR 11P			
* CN505	1-565-042-11	HOUSING, CONNECTOR(PC BOARD) 5P (H61:E, EA, AUS, MY, SP, JE)			
		< DIODE >			
D501	8-719-987-63	DIODE	1N4148M		
D502	8-719-987-63	DIODE	1N4148M		
D503	8-719-987-63	DIODE	1N4148M		
D504	8-719-987-63	DIODE	1N4148M		
D505	8-719-987-63	DIODE	1N4148M		
D506	8-719-987-63	DIODE	1N4148M		
D507	8-719-987-63	DIODE	1N4148M		
D508	8-719-010-46	DIODE	UZ-6.2BSB		
D509	8-719-301-37	LED	EL2210S-CD (ROCK) (H61:AEP, G, IT, EE/H61M)		
D510	8-719-301-37	LED	SEL2210S-CD (MAIN) (H61:E, EA, AUS, MY, SP, TE)		
D510	8-719-301-37	LED	SEL2210S-CD (POPS) (H61:AEP, G, IT, EE/H61M)		
D511	8-719-301-37	LED	SEL2210S-CD (SUB) (H61:E, EA, AUS, MY, SP, TE)		
D511	8-719-301-37	LED	SEL2210S-CD (JAZZ) (H61:AEP, G, IT, EE/H61M)		
D512	8-719-301-37	LED	SEL2210S-CD(KARAOKE PON) (H61:E, EA, AUS, MY, SP, TE)		
D512	8-719-301-37	LED	SEL2210S-CD (HALL) (H61:AEP, G, IT, EE/H61M)		
D513	8-719-301-37	LED	SEL2210S-CD (BGM) (H61:AEP, G, IT, EE/H61M)		
D514	8-719-301-37	LED	SEL2210S-CD (DIRECT)		
D515	8-719-301-37	LED	SEL2210S-CD (HIGH)		
D516	8-719-301-37	LED	SEL2210S-CD (NORMAL)		
D517	8-719-301-37	LED	SEL2210S-CD (S-SUR)		

Ref. No.	Part No.	Description			Remark
		< FLUORESCENT INDICATOR TUBE >			
FL501	1-517-122-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC501	8-759-088-84	IC	uPD78042GF-015-3B9		
IC502	8-759-500-31	IC	X24C01P		
IC503	8-759-520-90	IC	PST572E		
IC504	8-749-923-80	IC	GP1U90XB		
		< TRANSISTOR >			
Q501	8-729-900-80	TRANSISTOR	DTC114ES		
Q502	8-729-900-61	TRANSISTOR	DTA114ES		
Q503	8-729-900-80	TRANSISTOR	DTC114ES		
Q506	8-729-900-80	TRANSISTOR	DTC114ES (H61:AEP, G, IT, EE/H61M)		
Q507	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q508	8-729-900-80	TRANSISTOR	DTC114ES (H61:AEP, G, IT, EE/H61M)		
Q509	8-729-900-80	TRANSISTOR	DTC114ES (H61:AEP, G, IT, EE/H61M)		
		< RESISTOR >			
R501	1-249-419-11	CARBON	1.5K	5%	1/4W
R502	1-249-405-11	CARBON	100	5%	1/4W
R503	1-249-406-11	CARBON	120	5%	1/4W
R504	1-249-406-11	CARBON	120	5%	1/4W
R505	1-249-407-11	CARBON	150	5%	1/4W
R506	1-249-408-11	CARBON	180	5%	1/4W
R507	1-249-409-11	CARBON	220	5%	1/4W
R508	1-249-410-11	CARBON	270	5%	1/4W
R509	1-249-411-11	CARBON	330	5%	1/4W
R510	1-249-413-11	CARBON	470	5%	1/4W
R511	1-249-414-11	CARBON	560	5%	1/4W
R512	1-249-419-11	CARBON	1.5K	5%	1/4W
R513	1-249-405-11	CARBON	100	5%	1/4W
R514	1-249-406-11	CARBON	120	5%	1/4W
R515	1-249-406-11	CARBON	120	5%	1/4W
R516	1-249-407-11	CARBON	150	5%	1/4W
R517	1-249-408-11	CARBON	180	5%	1/4W
R518	1-249-409-11	CARBON	220	5%	1/4W
R519	1-249-410-11	CARBON	270	5%	1/4W
R520	1-249-411-11	CARBON	330	5%	1/4W
R521	1-249-413-11	CARBON	470	5%	1/4W
R522	1-249-414-11	CARBON	560	5%	1/4W
R523	1-249-416-11	CARBON	820	5%	1/4W
R524	1-249-418-11	CARBON	1.2K	5%	1/4W
R525	1-249-421-11	CARBON	2.2K	5%	1/4W
R529	1-249-429-11	CARBON	10K	5%	1/4W
R530	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remark
J203	1-216-296-00	METAL CHIP	0	5%	1/8W
J205	1-216-295-00	METAL CHIP	0	5%	1/10W
J206	1-216-296-00	METAL CHIP	0	5%	1/8W
J207	1-216-296-00	METAL CHIP	0	5%	1/8W
J208	1-216-295-00	METAL CHIP	0	5%	1/10W
J209	1-216-296-00	METAL CHIP	0	5%	1/8W
J210	1-216-296-00	METAL CHIP	0	5%	1/8W
J211	1-216-296-00	METAL CHIP	0	5%	1/8W
J212	1-216-296-00	METAL CHIP	0	5%	1/8W
J215	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q101	8-729-805-45	TRANSISTOR	2SC3395		
Q201	8-729-602-21	TRANSISTOR	2SC4154		
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-236-427-11	RESISTOR, NETWORK	18K		
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
R201	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W
R203	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R204	1-216-073-00	METAL CHIP	10K	5%	1/10W
R205	1-216-097-00	METAL CHIP	100K	5%	1/10W
R209	1-216-081-00	METAL CHIP	22K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R212	1-239-039-11	RESISTOR, NETWORK	12K		
R214	1-239-039-11	RESISTOR, NETWORK	22K		
R218	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-001-00	METAL CHIP	10	5%	1/10W
R222	1-236-427-11	RESISTOR, NETWORK	18K		
R223	1-216-081-00	METAL CHIP	22K	5%	1/10W
R224	1-216-081-00	METAL CHIP	22K	5%	1/10W
R225	1-216-081-00	METAL CHIP	22K	5%	1/10W
R226	1-216-081-00	METAL CHIP	22K	5%	1/10W
R230	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R231	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R232	1-216-041-00	METAL CHIP	470	5%	1/10W
R233	1-216-041-00	METAL CHIP	470	5%	1/10W
R234	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R235	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R236	1-236-413-11	RESISTOR, NETWORK	1.2K		
R301	1-236-413-11	RESISTOR, NETWORK	1.2K		
R303	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R304	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R305	1-216-097-00	METAL CHIP	100K	5%	1/10W
R306	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-241-395-11	RES, ADJ, METAL GLAZE	10K		
RV102	1-241-395-11	RES, ADJ, METAL GLAZE	10K		
		< SWITCH >			
SW101	1-572-085-11	SWITCH, LEAF (LIMIT)			
		< VIBRATOR >			
X201	1-567-908-11	VIBRATOR, CRYSTAL (16MHz)			
X202	1-579-216-11	VIBRATOR, CERAMIC (4MHz)			
**********					
*	A-4356-594-A	DISPLAY BOARD, COMPLETE (H61M:US, CND)			
*	A-4356-600-A	DISPLAY BOARD, COMPLETE (H61:AEP/H61M:AEP)			
*	A-4356-601-A	DISPLAY BOARD, COMPLETE (H61:G)			
*	A-4356-602-A	DISPLAY BOARD, COMPLETE (H61:IT)			
*	A-4356-603-A	DISPLAY BOARD, COMPLETE (H61:E, AUS, EA, MY, SP)			
*	A-4356-593-A	DISPLAY BOARD, COMPLETE (H61M:UK)			
*	A-4356-604-A	DISPLAY BOARD, COMPLETE (H61:EE)			
*	A-4360-498-A	DISPLAY BOARD, COMPLETE (H61:JE)			
		**********			
		< CAPACITOR >			
C501	1-164-159-11	CERAMIC	0.1uF		50V
C502	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description				Remark
R531	1-249-429-11	CARBON	10K	5%	1/4W	
R532	1-249-429-11	CARBON	10K	5%	1/4W	
R533	1-249-417-11	CARBON	1K	5%	1/4W	
R534	1-249-417-11	CARBON	1K	5%	1/4W	
R535	1-249-417-11	CARBON	1K	5%	1/4W	
R536	1-249-419-11	CARBON	1.5K	5%	1/4W	
R537	1-249-423-11	CARBON	3.3K	5%	1/4W	
R538	1-249-417-11	CARBON	1K	5%	1/4W	
R539	1-249-417-11	CARBON	1K	5%	1/4W	
R540	1-249-417-11	CARBON	1K	5%	1/4W	
R541	1-249-417-11	CARBON	1K	5%	1/4W	
R542	1-249-417-11	CARBON	1K	5%	1/4W	
R543	1-249-417-11	CARBON	1K	5%	1/4W	
R544	1-249-417-11	CARBON	1K	5%	1/4W	
R545	1-249-417-11	CARBON	1K	5%	1/4W	
R546	1-249-417-11	CARBON	1K	5%	1/4W	
R547	1-249-417-11	CARBON	1K	5%	1/4W	
R548	1-249-417-11	CARBON	1K	5%	1/4W	
R549	1-249-417-11	CARBON	1K	5%	1/4W	
R550	1-249-429-11	CARBON	10K	5%	1/4W	
R551	1-249-429-11	CARBON	10K	5%	1/4W	
R552	1-249-429-11	CARBON	10K	5%	1/4W	
R553	1-249-429-11	CARBON	10K	5%	1/4W	
R554	1-249-437-11	CARBON	47K	5%	1/4W	
R555	1-249-437-11	CARBON	47K	5%	1/4W	
R556	1-249-437-11	CARBON	47K	5%	1/4W	
R557	1-249-437-11	CARBON	47K	5%	1/4W	
R558	1-249-437-11	CARBON	47K	5%	1/4W	
R559	1-249-437-11	CARBON	47K	5%	1/4W	
R560	1-249-437-11	CARBON	47K	5%	1/4W	
R561	1-249-437-11	CARBON	47K	5%	1/4W	
R562	1-249-437-11	CARBON	47K	5%	1/4W	
R563	1-249-437-11	CARBON	47K	5%	1/4W	
R564	1-249-437-11	CARBON	47K	5%	1/4W	
R565	1-249-437-11	CARBON	47K	5%	1/4W	
R566	1-249-417-11	CARBON	1K	5%	1/4W	
R567	1-249-429-11	CARBON	10K	5%	1/4W	
R568	1-249-425-11	CARBON	4.7K	5%	1/4W	
R569	1-249-429-11	CARBON	10K	5%	1/4W	
R570	1-249-411-11	CARBON	330	5%	1/4W	
R571	1-249-411-11	CARBON	330	5%	1/4W	
R572	1-249-414-11	CARBON	560	5%	1/4W	
R574	1-249-416-11	CARBON	820	5%	1/4W	
R575	1-249-429-11	CARBON	10K	5%	1/4W	
R576	1-249-429-11	CARBON	10K	5%	1/4W	
R578	1-249-414-11	CARBON	560	5%	1/4W	
R580	1-249-437-11	CARBON	47K	5%	1/4W	
R581	1-249-437-11	CARBON	47K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R582	1-249-425-11	CARBON	4.7K	5%	1/4W	
R583	1-249-417-11	CARBON	1K	5%	1/4W	
R584	1-249-417-11	CARBON	1K	5%	1/4W	
R585	1-249-417-11	CARBON	1K	5%	1/4W	
R586	1-249-417-11	CARBON	1K	5%	1/4W	
R5001	1-247-844-11	CARBON	3.6K	5%	1/4W	(H61M:US, CND)
R5001	1-249-413-11	CARBON	470	5%	1/4W	(H61:G)
R5001	1-247-832-11	CARBON	1.1K	5%	1/4W	(H61:IT)
R5001	1-249-426-11	CARBON	5.6K	5%	1/4W	(H61:EE)
R5001	1-249-421-11	CARBON	2.2K	5%	1/4W	(H61:E, AUS, EA, MY, SP)
R5001	1-249-429-11	CARBON	10K	5%	1/4W	(H61:JE)
		< VARIABLE RESISTOR >				
RV501	1-223-300-11	RES, VAR, SLIDE	50K			(ECHO) (H61:E, AUS, EA, MY, SP, JE)
RV502	1-223-300-11	RES, VAR, SLIDE	50K			(MIC LEVEL) (H61:E, AUS, EA, MY, SP, JE)
		< SWITCH >				
S501	1-572-184-11	SWITCH, KEYBOARD				(CLOCK DISPLAY (CLOCK SET))
S502	1-572-184-11	SWITCH, KEYBOARD				(TIMER CONT)
S503	1-572-184-11	SWITCH, KEYBOARD				(SLEEP)
S504	1-572-184-11	SWITCH, KEYBOARD				(MEMORY (NEXT))
S505	1-572-184-11	SWITCH, KEYBOARD				(AUTO)
S506	1-572-184-11	SWITCH, KEYBOARD				(MODE)
S507	1-572-184-11	SWITCH, KEYBOARD				(TUNING +)
S508	1-572-184-11	SWITCH, KEYBOARD				(TUNING -)
S509	1-572-184-11	SWITCH, KEYBOARD				(BAND)
S510	1-572-184-11	SWITCH, KEYBOARD				(PRESET/TIMER +)
S511	1-572-184-11	SWITCH, KEYBOARD				(PRESET/TIMER -)
S512	1-572-184-11	SWITCH, KEYBOARD				(POWER (ON/STANDBY))
S513	1-572-184-11	SWITCH, KEYBOARD				(TIMER SET (CLOCK SET))
S514	1-572-184-11	SWITCH, KEYBOARD				(DBFB)
S515	1-572-184-11	SWITCH, KEYBOARD				(TAPE)
S516	1-572-184-11	SWITCH, KEYBOARD				(CD)
S517	1-572-184-11	SWITCH, KEYBOARD				(TUNER)
S518	1-572-184-11	SWITCH, KEYBOARD				(PHONO) (H61:AEP, G, IT, EE/H61M:UK)
S518	1-572-184-11	SWITCH, KEYBOARD				(VIDEO) (H61:E, EA, AUS, MY, SP, JE/H61M:US, CND, AEP)
S519	1-572-184-11	SWITCH, KEYBOARD				(ROCK) (H61:AEP, G, IT, EE/H61M)
S519	1-572-184-11	SWITCH, KEYBOARD				(STEREO) (H61:E, EA, AUS, MY, SP, JE)
S520	1-572-184-11	SWITCH, KEYBOARD				(POPS) (H61:AEP, G, IT, EE/H61M)
S520	1-572-184-11	SWITCH, KEYBOARD				(MAIN) (H61:E, EA, AUS, MY, SP, JE)

DISPLAY ECHO

Ref. No.	Part No.	Description	Remark
S521	1-572-184-11	SWITCH, KEYBOARD (JAZZ)	(H61:AEP, G, IT, EE/H61M)
S521	1-572-184-11	SWITCH, KEYBOARD (SUB)	(H61:E, EA, AUS, MY, SP, JE)
S522	1-572 184-11	SWITCH, KEYBOARD (HALL)	(H61:AEP, G, IT, EE/H61M)
S522	1-572-184-11	SWITCH, KEYBOARD (KARAOKE PON)	(H61:E, EA, AUS, MY, SP, JE)
S523	1-572-184-11	SWITCH, KEYBOARD (BGM)	(H61:AEP, G, IT, EE/H61M)
S523	1-572-184-11	SWITCH, KEYBOARD (PRESET)	(H61:E, EA, AUS, MY, SP, JE)
S524	1-572-184-11	SWITCH, KEYBOARD (DIRECT)	
S525	1-572-184-11	SWITCH, KEYBOARD (S-SUR)	
		< VIBRATOR >	
X5001	1-567-098-00	OSCILLATOR, CRYSTAL (32.768kHz)	
**********			
*	A-4356-599-A	ECHO BOARD, COMPLETE	(H61:E, AUS, EA, MY, SP, JE)
		**********	
		< CAPACITOR >	
C610	1-126-101-11	ELECT 100uF 20% 16V	(H61:E, AUS, EA, MY, SP, JE)
C611	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C612	1-162-291-31	CERAMIC 560PF 10% 50V	(H61:E, AUS, EA, MY, SP, JE)
C613	1-124-903-11	ELECT 1uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C614	1-130-480-00	CERAMIC 0.0056uF 5% 50V	(H61:E, AUS, EA, MY, SP, JE)
C615	1-124-903-11	ELECT 1uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C616	1-161-379-00	CERAMIC 0.01uF 20% 25V	(H61:E, AUS, EA, MY, SP, JE)
C617	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C618	1-124-910-11	ELECT 47uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C619	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C620	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C621	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C622	1-161-374-11	CERAMIC 0.0015uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C623	1-124-903-11	ELECT 1uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C624	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C625	1-164-159-11	CERAMIC 0.1uF 50V	(H61:E, AUS, EA, MY, SP, JE)
C629	1-124-907-11	ELECT 10uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C630	1-162-282-31	CERAMIC 100PF 10% 50V	(H61:E, AUS, EA, MY, SP, JE)
C631	1-162-286-31	CERAMIC 220PF 10% 50V	(H61:E, AUS, EA, MY, SP, JE)
C632	1-161-379-00	CERAMIC 0.01uF 20% 25V	(H61:E, AUS, EA, MY, SP, JE)
C633	1-161-379-00	CERAMIC 0.01uF 20% 25V	(H61:E, AUS, EA, MY, SP, JE)
C634	1-124-907-11	ELECT 10uF 20% 50V	(H61:E, AUS, EA, MY, SP, JE)
C635	1-162-300-11	CERAMIC 0.01uF	(H61:E, AUS, EA, MY, SP, JE)
		< CONNECTOR >	
* CN611	1-568-848-11	SOCKET, CONNECTOR 5P	(H61:E, AUS, EA, MY, SP, JE)
* CN612	1-568-824-11	SOCKET, CONNECTOR 5P	(H61:E, AUS, EA, MY, SP, JE)
* CN613	1-565-041-11	PIN, CONNECTOR (PC BOARD) 5P	(H61:E, AUS, EA, MY, SP, JE)
		< DIODE >	
D610	8-719-028-15	LED LED-SX-TP	(H61:E, AUS, EA, MY, SP, JE)
		< IC >	
IC602	8-759-634-51	IC M5218A	(H61:E, AUS, EA, MY, SP, JE)
IC610	8-759-166-05	IC M65831PK	(H61:E, AUS, EA, MY, SP, JE)
		< COIL >	
L610	1-408-104-00	INDUCTOR 1mH	(H61:E, AUS, EA, MY, SP, JE)
		< RESISTOR >	
R610	1-247-903-00	CARBON 1M 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R611	1-249-429-11	CARBON 10K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R612	1-249-429-11	CARBON 10K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R613	1-249-431-11	CARBON 15K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R614	1-249-431-11	CARBON 15K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R615	1-249-431-11	CARBON 15K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R616	1-249-431-11	CARBON 15K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R617	1-249-429-11	CARBON 10K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)
R618	1-249-436-11	CARBON 39K 5% 1/4W	(H61:E, AUS, EA, MY, SP, JE)

MAIN

Ref. No.	Part No.	Description			Remark
		< ANTENNA >			
ANT1	1-501-321-51	ANTENNA, TELESCOPIC (H61)			
		< CAPACITOR >			
C1	1-162-195-31	CERAMIC	4.7PF	10%	50V (H61)
C2	1-124-907-11	ELECT	10uF	20%	50V
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-162-294-31	CERAMIC	0.001uF	10%	50V
C5	1-161-494-00	CERAMIC	0.022uF		25V (H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
C6	1-162-195-31	CERAMIC	4.7PF	10%	50V (H61:E, AUS, EA, MY, SP, JE)
C7	1-136-162-00	FILM	0.056uF	5%	50V (H61:E, AUS, EA, MY, SP, JE)
C8	1-164-159-11	CERAMIC	0.1uF		50V (H61:E, AUS, EA, MY, SP, JE)
C9	1-102-120-00	CERAMIC	0.0018uF	10%	50V (H61:AEP, EE/H61M:AEP, UK)
C10	1-161-374-11	CERAMIC	0.0015uF	20%	50V (H61:AEP, EE/H61M:AEP, UK)
C11	1-161-494-00	CERAMIC	0.022uF		25V (H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
C12	1-161-494-00	CERAMIC	0.022uF		25V
C13	1-162-198-31	CERAMIC	8.2PF	10%	50V
C14	1-124-463-00	ELECT	0.1uF	20%	50V
C15	1-136-153-00	FILM	0.01uF	5%	50V
C16	1-124-925-11	ELECT	2.2uF	20%	100V
C17	1-136-157-00	FILM	0.022uF	5%	50V (H61:AEP, EE/H61M:AEP, UK)
C18	1-136-157-00	FILM	0.022uF	5%	50V (H61:AEP, EE/H61M:AEP, UK)
C19	1-124-902-00	ELECT	0.47uF	20%	50V (H61:AEP, EE/H61M:AEP, UK)
C20	1-124-477-11	ELECT	47uF	20%	25V
C21	1-161-379-00	CERAMIC	0.01uF	20%	25V
C22	1-124-907-11	ELECT	10uF	20%	50V
C23	1-161-379-00	CERAMIC	0.01uF	20%	25V
C24	1-161-379-00	CERAMIC	0.01uF	20%	25V
C25	1-164-056-11	CERAMIC	27PF	5%	50V
C26	1-164-056-11	CERAMIC	27PF	5%	50V
C27	1-161-379-00	CERAMIC	0.01uF	20%	25V
C28	1-161-379-00	CERAMIC	0.01uF	20%	25V
C29	1-161-379-00	CERAMIC	0.01uF	20%	25V
C31	1-161-379-00	CERAMIC	0.01uF	20%	25V
C32	1-124-907-11	ELECT	10uF	20%	50V
C33	1-161-379-00	CERAMIC	0.01uF	20%	25V
C34	1-161-379-00	CERAMIC	0.01uF	20%	25V
C35	1-161-379-00	CERAMIC	0.01uF	20%	25V
C36	1-161-379-00	CERAMIC	0.01uF	20%	25V
C37	1-124-925-11	ELECT	2.2uF	20%	100V
C38	1-124-903-11	ELECT	1uF	20%	50V
C39	1-124-903-11	ELECT	1uF	20%	50V
C40	1-161-379-00	CERAMIC	0.01uF	20%	25V
C41	1-123-382-00	ELECT	3.3uF	20%	100V
C42	1-124-907-11	ELECT	10uF	20%	50V
C43	1-161-379-00	CERAMIC	0.01uF	20%	25V
C44	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C45	1-162-294-31	CERAMIC	0.001uF	10%	50V (H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M)
C45	1-162-291-31	CERAMIC	560PF	10	50V (H61:G, IT)
C46	1-162-282-31	CERAMIC	100PF	10%	50V (H61:G, IT)
C47	1-124-903-11	ELECT	1uF	20%	50V
C48	1-161-494-00	CERAMIC	0.022uF		25V (H61/H61M:AEP, UK)
C48	1-136-159-00	FILM	0.033uF	5%	50V (H61M:US, CND)
C49	1-161-494-00	CERAMIC	0.022uF		25V (H61/H61M:AEP, UK)
C49	1-136-159-00	FILM	0.033uF	5%	50V (H61M:US, CND)
C50	1-124-903-11	ELECT	1uF	20%	50V
C51	1-124-903-11	ELECT	1uF	20%	50V
C52	1-124-903-11	ELECT	1uF	20%	50V
C53	1-124-903-11	ELECT	1uF	20%	50V
C54	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C55	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C56	1-124-477-11	ELECT	47uF	20%	25V
C57	1-126-176-11	ELECT	220uF	20%	10V
C58	1-161-379-00	CERAMIC	0.01uF	20%	25V
C59	1-162-294-31	CERAMIC	0.001uF	10%	50V
C60	1-162-294-31	CERAMIC	0.001uF	10%	50V
C61	1-130-478-00	MYLAR	0.0039uF	5%	50V
C62	1-130-478-00	MYLAR	0.0039uF	5%	50V
C64	1-162-294-31	CERAMIC	0.001uF	10%	50V
C65	1-164-064-11	CERAMIC	56PF	5%	50V
C581	1-124-927-11	ELECT	4.7uF	20%	100V
C582	1-124-907-11	ELECT	10uF	20%	50V
C583	1-136-177-00	FILM	1uF	5%	50V
C601	1-162-286-31	CERAMIC	220PF	10%	50V
C602	1-162-286-31	CERAMIC	220PF	10%	50V
C603	1-162-282-31	CERAMIC	100PF	10%	50V (H61:AEP, G, IT, EE/H61M:AEP, UK)
C604	1-162-282-31	CERAMIC	100PF	10%	50V (H61:AEP, G, IT, EE/H61M:AEP, UK)
C605	1-124-902-00	ELECT	0.47uF	20%	50V (H61:AEP, G, IT, EE/H61M:AEP, UK)
C606	1-124-902-00	ELECT	0.47uF	20%	50V (H61:AEP, G, IT, EE/H61M:AEP, UK)
C607	1-162-282-31	CERAMIC	100PF	10%	50V (H61:AEP, G, IT, EE/H61M:AEP, UK)
C608	1-162-282-31	CERAMIC	100PF	10%	50V (H61:AEP, G, IT, EE/H61M:AEP, UK)

Ref. No.	Part No.	Description				Remark
R619	1-249-431-11	CARBON	15K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R623	1-247-887-00	CARBON	220K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R624	1-247-887-00	CARBON	220K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R625	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R626	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R627	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R628	1-249-431-11	CARBON	15K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R629	1-247-887-00	CARBON	220K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R630	1-247-887-00	CARBON	220K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R631	1-249-417-11	CARBON	1K	5%	1/4W F	(H61:E, AUS, EA, MY, SP, JE)
		< VIBRATOR >				
X610	1-577-358-21	VIBRATOR, SERAMIC (2MHz)				(H61:E, AUS, EA, MY, SP, JE)
**********						
*	1-646-897-11	JACK BOARD				
		**********				
		< CAPACITOR >				
C250	1-162-282-31	CERAMIC	100PF	10%	50V	
C251	1-162-282-31	CERAMIC	100PF	10%	50V	
C252	1-126-157-11	ELECT	10uF	20%	16V	
C260	1-162-294-31	CERAMIC	0.001uF	10%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C261	1-162-294-31	CERAMIC	0.001uF	10%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C262	1-162-282-31	CERAMIC	100PF	10%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C263	1-162-290-31	CERAMIC	470PF	10%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C264	1-124-463-00	ELECT	0.1uF	20%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C265	1-124-463-00	ELECT	0.1uF	20%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C266	1-124-463-00	ELECT	0.1uF	20%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C267	1-161-379-00	CERAMIC	0.01uF	20%	25V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
C268	1-124-465-00	ELECT	0.47uF	20%	50V	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
		< CONNECTOR >				
* CN251	1-568-848-11	SOCKET, CONNECTOR 5P				

Ref. No.	Part No.	Description				Remark
* CN261	1-568-848-11	SOCKET, CONNECTOR 5P				(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
		< IC >				
IC250	8-759-634-51	IC M5218AP				(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
		< JACK >				
J251	1-750-032-11	JACK (DIA. 3.5) (HEADPHONES)				
J261	1-750-032-11	JACK (DIA. 3.5) (MIX MIC)				(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
		< RESISTOR >				
R250	1-249-414-11	CARBON	560	5%	1/4W	
R251	1-249-414-11	CARBON	560	5%	1/4W	
R252	1-249-417-11	CARBON	1K	5%	1/4W	
R260	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R261	1-249-411-11	CARBON	330	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R262	1-249-416-11	CARBON	820	5%	1/4W F	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R263	1-247-887-00	CARBON	220K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R264	1-249-441-11	CARBON	100K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
**********						
*	1-638-308-11	LOADING BOARD				
		**********				
		< CONNECTOR >				
CN201	1-580-918-11	HOUSING, CONNECTOR 5P				
		< SWITCH >				
S291	1-571-924-11	SWITCH, LEAF (LOAD IN)				
S292	1-571-924-11	SWITCH, LEAF (LOAD OUT)				
**********						
*	A-4356-569-A	MAIN BOARD, COMPLETE (H61:AEP)				
*	A-4356-570-A	MAIN BOARD, COMPLETE (H61:G, IT)				
*	A-4356-571-A	MAIN BOARD, COMPLETE (H61:EE)				
*	A-4356-572-A	MAIN BOARD, COMPLETE				(H61:E, AUS, EA, MY, SP)
*	A-4360-497-A	MAIN BOARD, COMPLETE (H61:JE)				
*	A-4356-561-A	MAIN BOARD, COMPLETE (H61M:US, CND)				
*	A-4356-559-A	MAIN BOARD, COMPLETE (H61M:AEP, UK)				
		**********				
*	4-925-530-01	PLATE, GROUND (H61)				

Ref. No.	Part No.	Description			Remark
C609	1-124-927-11	ELECT	4.7uF	20%	100V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C610	1-124-927-11	ELECT	4.7uF	20%	100V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C611	1-161-374-11	CERAMIC	0.0015uF	20%	50V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C612	1-161-374-11	CERAMIC	0.0015uF	20%	50V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C613	1-130-480-00	MYLAR	0.0056uF	5%	50V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C614	1-130-480-00	MYLAR	0.0056uF	5%	50V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C615	1-124-925-11	ELECT	2.2uF	20%	100V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C616	1-124-925-11	ELECT	2.2uF	20%	100V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C617	1-124-477-11	ELECT	47uF	20%	25V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C618	1-124-477-11	ELECT	47uF	20%	25V
			(H61:AEP, G, IT, EE/H61M:AEP, UK)		
C619	1-164-159-11	CERAMIC	0.1uF		50V
C620	1-164-159-11	CERAMIC	0.1uF		50V
C621	1-164-159-11	CERAMIC	0.1uF		50V
			(H61:E, AUS, EA, MY, SP, JE)		
C622	1-164-159-11	CERAMIC	0.1uF		50V
			(H61:E, AUS, EA, MY, SP, JE)		
C625	1-162-290-31	CERAMIC	470PF	10%	50V
					(H61M:US, CND)
C625	1-162-294-31	CERAMIC	0.001uF	10%	50V
			(H61:E, AUS, EA, MY, SP, JE)		
C626	1-162-290-31	CERAMIC	470PF	10%	50V
					(H61M:US, CND)
C626	1-162-294-31	CERAMIC	0.001uF	10%	50V
			(H61:E, AUS, EA, MY, SP, JE)		
C627	1-164-159-11	CERAMIC	0.1uF		50V
					(H61M:US, CND)
C627	1-161-494-00	CERAMIC	0.022uF		25V
			(H61:E, AUS, EA, MY, SP, JE)		
C628	1-164-159-11	CERAMIC	0.1uF		50V
					(H61M:US, CND)
C628	1-161-494-00	CERAMIC	0.022uF		25V
			(H61:E, AUS, EA, MY, SP, JE)		
C629	1-162-282-31	CERAMIC	100PF	10%	50V
C630	1-162-282-31	CERAMIC	100PF	10%	50V
C631	1-162-207-31	CERAMIC	22PF	5%	50V
C632	1-162-207-31	CERAMIC	22PF	5%	50V
C633	1-164-159-11	CERAMIC	0.1uF		50V
C634	1-164-159-11	CERAMIC	0.1uF		50V
C635	1-161-379-00	CERAMIC	0.01uF	20%	25V
			(H61:E, AUS, EA, MY, SP, JE)		
C636	1-161-379-00	CERAMIC	0.01uF	20%	25V
			(H61:E, AUS, EA, MY, SP, JE)		
C637	1-124-477-11	ELECT	47uF	20%	25V
C638	1-124-477-11	ELECT	47uF	20%	25V
C639	1-162-282-31	CERAMIC	100PF	10%	50V
C640	1-162-282-31	CERAMIC	100PF	10%	50V
C641	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description			Remark
C642	1-164-159-11	CERAMIC	0.1uF		50V
C701	1-124-907-11	ELECT	10uF	20%	50V
C702	1-126-157-11	ELECT	10uF	20%	16V
C703	1-124-907-11	ELECT	10uF	20%	50V
C704	1-126-157-11	ELECT	10uF	20%	16V
C705	1-136-164-00	FILM	0.082uF	5%	50V
C706	1-136-164-00	FILM	0.082uF	5%	50V
C707	1-136-167-00	FILM	0.15uF	5%	50V
C708	1-136-167-00	FILM	0.15uF	5%	50V
C709	1-162-292-31	CERAMIC	680PF	10%	50V
C710	1-162-292-31	CERAMIC	680PF	10%	50V
C711	1-130-472-00	MYLAR	0.0012uF	5%	50V
C712	1-130-472-00	MYLAR	0.0012uF	5%	50V
C713	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C714	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C715	1-130-476-00	MYLAR	0.0027uF	5%	50V
C716	1-130-476-00	MYLAR	0.0027uF	5%	50V
C717	1-130-478-00	MYLAR	0.0039uF	5%	50V
C718	1-130-478-00	MYLAR	0.0039uF	5%	50V
C719	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C720	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C721	1-161-379-00	CERAMIC	0.01uF	20%	25V
C722	1-161-379-00	CERAMIC	0.01uF	20%	25V
C723	1-130-486-00	MYLAR	0.018uF	10%	50V
C724	1-130-486-00	MYLAR	0.018uF	10%	50V
C725	1-161-494-00	CERAMIC	0.022uF		25V
C726	1-161-494-00	CERAMIC	0.022uF		25V
C727	1-130-491-00	MYLAR	0.047uF	5%	50V
C728	1-130-491-00	MYLAR	0.047uF	5%	50V
C729	1-136-162-00	FILM	0.056uF	5%	50V
C730	1-136-162-00	FILM	0.056uF	5%	50V
C731	1-164-159-11	CERAMIC	0.1uF		50V
C732	1-164-159-11	CERAMIC	0.1uF		50V
C733	1-136-167-00	FILM	0.15uF	5%	50V
C734	1-136-167-00	FILM	0.15uF	5%	50V
C735	1-136-169-00	FILM	0.22uF	5%	50V
C736	1-136-169-00	FILM	0.22uF	5%	50V
C737	1-162-282-31	CERAMIC	100PF	10%	50V
C738	1-162-282-31	CERAMIC	100PF	10%	50V
C739	1-124-907-11	ELECT	10uF	20%	50V
C740	1-126-157-11	ELECT	10uF	20%	16V
C741	1-162-282-31	CERAMIC	100PF	10%	50V
C742	1-162-282-31	CERAMIC	100PF	10%	50V
C743	1-162-282-31	CERAMIC	100PF	10%	50V
C744	1-162-282-31	CERAMIC	100PF	10%	50V
C745	1-124-907-11	ELECT	10uF	20%	50V
C746	1-126-157-11	ELECT	10uF	20%	16V
C747	1-162-282-31	CERAMIC	100PF	10%	50V
C748	1-162-282-31	CERAMIC	100PF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C749	1-124-903-11	ELECT	1uF	20%	50V
C750	1-126-301-11	ELECT	1uF	20%	50V
C751	1-164-159-11	CERAMIC	0.1uF		50V
C752	1-164-159-11	CERAMIC	0.1uF		50V
C753	1-164-159-11	CERAMIC	0.1uF		50V
C755	1-124-443-00	ELECT	100uF	20%	10V
C758	1-124-443-00	ELECT	100uF	20%	10V
C759	1-124-443-00	ELECT	100uF	20%	10V
C760	1-124-443-00	ELECT	100uF	20%	10V
C761	1-124-903-11	ELECT	1uF	20%	50V
C762	1-124-903-11	ELECT	1uF	20%	50V
C763	1-124-927-11	ELECT	4.7uF	20%	100V
C764	1-124-927-11	ELECT	4.7uF	20%	100V
C766	1-124-907-11	ELECT	10uF	20%	50V (H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M)
C767	1-124-903-11	ELECT	1uF	20%	50V
C768	1-124-473-11	ELECT	1000uF	20%	10V
C769	1-124-903-11	ELECT	1uF	20%	50V
C771	1-162-207-31	CERAMIC	22PF	5%	50V
C772	1-162-207-31	CERAMIC	22PF	5%	50V
C775	1-161-379-00	CERAMIC	0.01uF	20%	25V
C776	1-161-379-00	CERAMIC	0.01uF	20%	25V (H61)
C777	1-164-159-11	CERAMIC	0.1uF		50V (H61)
		< FILTER >			
CF1	1-527-968-11	FILTER, CERAMIC			
CF2	1-527-968-11	FILTER, CERAMIC (H61:G, IT)			
CF3	1-527-968-11	FILTER, CERAMIC			
		< TRIMMER >			
CT1	1-141-227-00	CAP, TRIMMER	20PF		(H61:E, AUS, EA, MY, SP, JE)
CT2	1-141-227-00	CAP, TRIMMER	20PF		(H61:E, AUS, EA, MY, SP, JE)
		< CONNECTOR >			
CN601	1-537-238-11	TERMINAL BOARD			
* CN602	1-564-510-11	PLUG, CONNECTOR 7P			
* CN603	1-568-454-11	PIN, CONNECTOR (PC BOARD) 9P			
* CN604	1-568-454-11	PIN, CONNECTOR (PC BOARD) 9P			
* CN605	1-573-085-11	CONNECTOR, FPC (NON ZIF) 19P			
* CN606	1-568-824-11	SOCKET, CONNECTOR 5P (H61M:US, CND)			
CN606	1-695-328-11	PIN, CONNECTOR (PC BOARD) 5P			(H61:E, AUS, EA, MY, SP, JE)
* CN607	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
* CN608	1-564-511-11	PLUG, CONNECTOR 8P			
* CN609	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CN610	1-695-334-11	PIN, CONNECTOR (PC BOARD) 11P			

Ref. No.	Part No.	Description	Remark
* CN611	1-573-048-11	PLUG, CONNECTOR 11P	
* CN612	1-569-155-11	PLUG, CONNECTOR 10P	
		< DIODE >	
D1	8-719-976-30	DIODE KV1560N	(H61:E, AUS, EA, MY, SP, JE)
D2	8-719-987-63	DIODE 1N4148M	
D581	8-719-987-63	DIODE 1N4148M	(H61:E, AUS, EA, MY, SP, JE)
D582	8-719-987-63	DIODE 1N4148M	(H61:E, AUS, EA, MY, SP, JE)
D583	8-719-987-63	DIODE 1N4148M	(H61:E, AUS, EA, MY, SP, JE)
D584	8-719-987-63	DIODE 1N4148M	
D586	8-719-987-63	DIODE 1N4148M	
D587	8-719-987-63	DIODE 1N4148M	
D588	8-719-987-63	DIODE 1N4148M	
D601	8-719-987-63	DIODE 1N4148M	
D603	8-719-987-63	DIODE 1N4148M	
D604	8-719-987-63	DIODE 1N4148M	
D605	8-719-987-63	DIODE 1N4148M	
		< FRONTEND >	
FE1	1-465-007-11	FRONT END (FM) (4 GANG)	(H61:G, IT)
FE1	1-465-396-11	FRONT END (3 GANG)	(H61:EE)
FE1	1-465-673-11	FRONT END (2 BAND)	(H61:AEP, E, AUS, EA, MY, SP, JE/H61M)
FE2	1-236-463-11	ENCAPSULATED COMPONENT	(H61:AEP, EE/H61M:AEP, UK)
FE3	1-239-261-12	ENCAPSULATED COMPONENT	(H61:AEP, EE/H61M:AEP, UK)
FE3	1-239-262-11	ENCAPSULATED COMPONENT	(H61:E, AUS, EA, MY, SP, JE)
FE3	1-239-260-11	ENCAPSULATED COMPONENT	(H61:G, IT/H61M:US, CND)
		< FILTER >	
FL1	1-236-465-11	ENCAPSULATED COMPONENT	(H61:G, IT)
FL2	1-239-597-11	FILTER, LOW PASS	
FL3	1-239-597-11	FILTER, LOW PASS	
		< IC >	
IC1	8-759-820-91	IC LC7218	
IC2	8-759-090-40	IC LA1831	
IC581	8-759-166-03	IC M50253PK	
IC601	8-759-634-51	IC M5218AP	(H61:AEP, G, IT, EE/H61M:AEP, UK)
IC602	8-759-000-48	IC MC14052BCP	
IC603	8-759-000-48	IC MC14052BCP	(H61:E, AUS, EA, MY, SP, JE)
IC604	8-759-000-48	IC MC14052BCP	(H61:E, AUS, EA, MY, SP, JE)
IC605	8-759-634-51	IC M5218AP	
IC606	8-759-634-51	IC M5218AP	
IC607	8-759-155-51	IC CXA1492BQ	
IC609	8-759-821-93	IC LA5601	

Ref. No.	Part No.	Description	Remark
		< IFT >	
IFT1	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)	
		< JACK >	
J601	1-569-181-11	JACK, PIN 2P (PHONO)	(H61:AEP, G, IT, EE/H61M:AEP, UK)
J601	1-569-181-11	JACK, PIN 2P (VIDEO/AUX)	(H61, E, EA, AUS, MY, SP, JE/H61M:US, CND)
J602	1-569-181-11	JACK, PIN 2P (SURROUND SPEAKER)	(H61:E, AUS, EA, MY, SP, JE)
		< COIL >	
L1	1-408-425-00	INDUCTOR 220uH	(H61:AEP, EE/H61M:AEP, UK)
L3	1-408-399-00	INDUCTOR 1.5uH	
* L600	1-410-858-11	INDUCTOR 0uH	(H61:G, IT)
* L601	1-410-858-11	INDUCTOR 0uH	(H61:G, IT)
		< TRANSISTOR >	
Q1	8-729-620-19	TRANSISTOR 2SC2724-CD	
Q2	8-729-620-19	TRANSISTOR 2SC2724-CD	(H61:G, IT)
Q3	8-729-900-61	TRANSISTOR DTA114ES	
Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
Q5	8-729-900-80	TRANSISTOR DTC114ES	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
Q6	8-729-900-80	TRANSISTOR DTC114ES	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
Q7	8-729-900-80	TRANSISTOR DTC114ES	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
Q8	8-729-119-76	TRANSISTOR 2SA1175-HFE	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
Q9	8-729-900-80	TRANSISTOR DTC114ES	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
Q10	8-729-201-83	TRANSISTOR 2SC3112-A	
Q11	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q12	8-729-201-83	TRANSISTOR 2SC3112-A	(H61:AEP, EE/H61M:AEP, UK)
Q13	8-729-202-67	TRANSISTOR 2SK246-GR3	(H61:AEP, EE/H61M:AEP, UK)
Q14	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q15	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q581	8-729-900-89	TRANSISTOR DTC144ES	
Q582	8-729-900-80	TRANSISTOR DTC114ES	
Q583	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q601	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q602	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q603	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q604	8-729-900-63	TRANSISTOR DTA124ES	
Q751	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q752	8-729-620-05	TRANSISTOR 2SC2603-EF	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R1	1-249-411-11	CARBON 330 5% 1/4W	
R2	1-249-411-11	CARBON 330 5% 1/4W	
R3	1-247-891-00	CARBON 330K 5% 1/4W	
R4	1-249-411-11	CARBON 330 5% 1/4W	
R5	1-247-891-00	CARBON 330K 5% 1/4W	(H61:G, IT)
R6	1-249-411-11	CARBON 330 5% 1/4W	(H61:G, IT)
R7	1-249-405-11	CARBON 100 5% 1/4W	
R8	1-249-433-11	CARBON 22K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R9	1-247-903-00	CARBON 1M 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R10	1-247-903-00	CARBON 1M 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R11	1-249-425-11	CARBON 4.7K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R12	1-249-441-11	CARBON 100K 5% 1/4W	
R13	1-249-437-11	CARBON 47K 5% 1/4W	
R16	1-249-425-11	CARBON 4.7K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R17	1-249-425-11	CARBON 4.7K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R18	1-249-429-11	CARBON 10K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R19	1-249-429-11	CARBON 10K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R20	1-249-429-11	CARBON 10K 5% 1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R21	1-249-405-11	CARBON 100 5% 1/4W	
R22	1-249-425-11	CARBON 4.7K 5% 1/4W	
R23	1-249-425-11	CARBON 4.7K 5% 1/4W	
R24	1-249-421-11	CARBON 2.2K 5% 1/4W	
R25	1-249-425-11	CARBON 4.7K 5% 1/4W	
R26	1-249-414-11	CARBON 560 5% 1/4W	
R27	1-249-417-11	CARBON 1K 5% 1/4W	
R28	1-249-410-11	CARBON 270 5% 1/4W	
R29	1-249-423-11	CARBON 3.3K 5% 1/4W	
R30	1-249-425-11	CARBON 4.7K 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R31	1-249-425-11	CARBON 4.7K 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R32	1-249-421-11	CARBON 2.2K 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R33	1-249-433-11	CARBON 22K 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R34	1-249-414-11	CARBON 560 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R35	1-249-417-11	CARBON 1K 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R36	1-249-410-11	CARBON 270 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R37	1-249-423-11	CARBON 3.3K 5% 1/4W	(H61:AEP, EE/H61M:AEP, UK)
R38	1-249-401-11	CARBON 47 5% 1/4W	

MAIN

Ref. No.	Part No.	Description				Remark
R39	1-249-405-11	CARBON	100	5%	1/4W	
R40	1-249-429-11	CARBON	10K	5%	1/4W	
R41	1-249-417-11	CARBON	1K	5%	1/4W	
R42	1-249-417-11	CARBON	1K	5%	1/4W	
R43	1-249-417-11	CARBON	1K	5%	1/4W	
R44	1-249-417-11	CARBON	1K	5%	1/4W	
R45	1-249-417-11	CARBON	1K	5%	1/4W	
R46	1-249-425-11	CARBON	4.7K	5%	1/4W	
R47	1-249-417-11	CARBON	1K	5%	1/4W	
R48	1-249-399-11	CARBON	33	5%	1/4W	
R49	1-249-395-11	CARBON	15	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R50	1-249-425-11	CARBON	4.7K	5%	1/4W	
R51	1-249-412-11	CARBON	390	5%	1/4W	
R52	1-249-429-11	CARBON	10K	5%	1/4W	
R53	1-247-842-11	CARBON	3K	5%	1/4W	
R54	1-249-429-11	CARBON	10K	5%	1/4W	
R55	1-249-429-11	CARBON	10K	5%	1/4W	
R57	1-249-430-11	CARBON	12K	5%	1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M)
R58	1-249-430-11	CARBON	12K	5%	1/4W	(H61:G, IT)
R59	1-249-425-11	CARBON	4.7K	5%	1/4W	
R60	1-249-425-11	CARBON	4.7K	5%	1/4W	
R61	1-247-891-00	CARBON	330K	5%	1/4W	
R62	1-247-891-00	CARBON	330K	5%	1/4W	
R63	1-249-412-11	CARBON	390	5%	1/4W	
R64	1-249-412-11	CARBON	390	5%	1/4W	
R65	1-249-421-11	CARBON	2.2K	5%	1/4W	
R66	1-249-421-11	CARBON	2.2K	5%	1/4W	
R67	1-249-409-11	CARBON	220	5%	1/4W	
R68	1-249-405-11	CARBON	100	5%	1/4W	
R69	1-249-425-11	CARBON	4.7K	5%	1/4W	
R70	1-249-425-11	CARBON	4.7K	5%	1/4W	
R74	1-249-429-11	CARBON	10K	5%	1/4W	
R80	1-249-429-11	CARBON	10K	5%	1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R81	1-249-429-11	CARBON	10K	5%	1/4W	(H61:AEP, EE, E, AUS, EA, MY, SP, JE/H61M:AEP, UK)
R90	1-247-839-00	CARBON	2.2K			(H61:AEP, EE, E, AUS, EA, JE)
R581	1-249-425-11	CARBON	4.7K	5%	1/4W	
R582	1-249-425-11	CARBON	4.7K	5%	1/4W	
R583	1-249-429-11	CARBON	10K	5%	1/4W	
R584	1-249-429-11	CARBON	10K	5%	1/4W	
R585	1-249-429-11	CARBON	10K	5%	1/4W	
R601	1-249-417-11	CARBON	1K	5%	1/4W	
R602	1-249-417-11	CARBON	1K	5%	1/4W	
R603	1-249-417-11	CARBON	1K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R603	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)

Ref. No.	Part No.	Description				Remark
R604	1-249-417-11	CARBON	1K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R604	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R605	1-249-438-11	CARBON	56K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R606	1-249-438-11	CARBON	56K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R607	1-249-417-11	CARBON	1K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R608	1-249-417-11	CARBON	1K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R609	1-249-437-11	CARBON	47K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R610	1-249-437-11	CARBON	47K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R611	1-247-897-11	CARBON	560K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R612	1-247-897-11	CARBON	560K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R613	1-249-417-11	CARBON	1K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R614	1-249-417-11	CARBON	1K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R615	1-249-405-11	CARBON	100	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R616	1-249-405-11	CARBON	100	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R617	1-249-437-11	CARBON	47K	5%	1/4W	
R618	1-249-437-11	CARBON	47K	5%	1/4W	
R619	1-249-429-11	CARBON	10K	5%	1/4W	
R620	1-249-429-11	CARBON	10K	5%	1/4W	
R621	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R622	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R627	1-249-437-11	CARBON	47K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R628	1-249-437-11	CARBON	47K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R629	1-249-437-11	CARBON	47K	5%	1/4W	
R630	1-249-437-11	CARBON	47K	5%	1/4W	
R631	1-249-437-11	CARBON	47K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R632	1-249-437-11	CARBON	47K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
R633	1-247-864-11	CARBON	24K	5%	1/4W	
R634	1-247-864-11	CARBON	24K	5%	1/4W	
R635	1-249-437-11	CARBON	47K	5%	1/4W	
R636	1-249-437-11	CARBON	47K	5%	1/4W	
R637	1-249-429-11	CARBON	10K	5%	1/4W	(H61:E, AUS, EA, MY, SP, JE)
R639	1-249-438-11	CARBON	56K	5%	1/4W	
R640	1-249-438-11	CARBON	56K	5%	1/4W	
R641	1-249-435-11	CARBON	33K	5%	1/4W	
R642	1-249-435-11	CARBON	33K	5%	1/4W	
R643	1-249-441-11	CARBON	100K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R644	1-249-441-11	CARBON	100K	5%	1/4W	
R645	1-249-435-11	CARBON	33K	5%	1/4W	
R646	1-249-435-11	CARBON	33K	5%	1/4W	
R647	1-249-438-11	CARBON	56K	5%	1/4W	
R648	1-249-438-11	CARBON	56K	5%	1/4W	
R649	1-249-429-11	CARBON	10K	5%	1/4W	
R650	1-249-429-11	CARBON	10K	5%	1/4W	
R652	1-249-429-11	CARBON	10K	5%	1/4W	
R653	1-249-441-11	CARBON	100K	5%	1/4W	
R701	1-249-435-11	CARBON	33K	5%	1/4W	
R702	1-249-435-11	CARBON	33K	5%	1/4W	
R703	1-249-429-11	CARBON	10K	5%	1/4W	
R704	1-249-429-11	CARBON	10K	5%	1/4W	
R705	1-247-903-00	CARBON	1M	5%	1/4W	
R706	1-247-903-00	CARBON	1M	5%	1/4W	
R707	1-247-903-00	CARBON	1M	5%	1/4W	
R708	1-247-903-00	CARBON	1M	5%	1/4W	
R709	1-247-903-00	CARBON	1M	5%	1/4W	
R710	1-247-903-00	CARBON	1M	5%	1/4W	
R711	1-247-903-00	CARBON	1M	5%	1/4W	
R712	1-247-903-00	CARBON	1M	5%	1/4W	
R713	1-247-903-00	CARBON	1M	5%	1/4W	
R714	1-247-903-00	CARBON	1M	5%	1/4W	
R715	1-247-903-00	CARBON	1M	5%	1/4W	
R716	1-247-903-00	CARBON	1M	5%	1/4W	
R717	1-247-903-00	CARBON	1M	5%	1/4W	
R718	1-247-903-00	CARBON	1M	5%	1/4W	
R719	1-247-903-00	CARBON	1M	5%	1/4W	
R720	1-247-903-00	CARBON	1M	5%	1/4W	
R721	1-249-429-11	CARBON	10K	5%	1/4W	
R722	1-249-429-11	CARBON	10K	5%	1/4W	
R723	1-249-435-11	CARBON	33K	5%	1/4W	
R724	1-249-435-11	CARBON	33K	5%	1/4W	
R725	1-249-437-11	CARBON	47K	5%	1/4W	
R726	1-249-437-11	CARBON	47K	5%	1/4W	
R727	1-249-429-11	CARBON	10K	5%	1/4W	
R728	1-249-429-11	CARBON	10K	5%	1/4W	
R729	1-249-429-11	CARBON	10K	5%	1/4W	
R730	1-249-417-11	CARBON	1K	5%	1/4W	
R751	1-249-427-11	CARBON	6.8K	5%	1/4W	
R752	1-249-427-11	CARBON	6.8K	5%	1/4W	
R753	1-249-441-11	CARBON	100K	5%	1/4W	
R754	1-249-441-11	CARBON	100K	5%	1/4W	
R780	1-249-417-11	CARBON	1K	5%	1/4W	
R781	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R782	1-217-637-00	FUSIBLE	1	5%	1/4W	F
R783	1-249-393-11	CARBON	10	5%	1/4W	
R785	1-247-895-00	CARBON	470K	5%	1/4W	
R786	1-247-895-00	CARBON	470K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R787	1-249-425-11	CARBON	4.7K	5%	1/4W	
R788	1-249-425-11	CARBON	4.7K	5%	1/4W	
R789	1-247-895-00	CARBON	470K	5%	1/4W	
R790	1-247-895-00	CARBON	470K	5%	1/4W	
R793	1-249-441-11	CARBON	100K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
R794	1-249-441-11	CARBON	100K	5%	1/4W	(H61:AEP, G, IT, EE/H61M:AEP, UK)
		< VARIABLE RESISTOR >				
RV1	1-238-601-11	RES, ADJ, CARBON 22K				
		< RELAY >				
RY601	1-515-920-11	RELAY (24V)				
		< TRANSFORMER >				
T1	1-402-424-11	COIL (ANT, SW3)				(H61:E, AUS, EA, MY, SP, JE)
T2	1-402-960-11	COIL (OSC SW3)				(H61:E, AUS, EA, MY, SP, JE)
		< TERMINAL >				
TB1	1-537-238-21	TERMINAL BOARD				(H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)
TB1	1-537-488-11	TERMINAL BOARD (ANT)				(H61:AEP, G, IT, EE/H61M:AEP, UK)
		< VIBRATOR >				
X1	1-577-126-21	VIBRATOR, CRYSTAL (7.2MHz)				
X2	1-577-075-11	OSCILLATOR, CERAMIC (456kHz)				
X3	1-579-777-11	DISCRIMINATOR, CERAMIC (10.7MHz)				
**********						
*	A-2006-399-A	MD(AX) BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C12	1-136-157-00	FILM	0.022uF	5%	50V	
C13	1-124-234-00	ELECT	22uF	20%	16V	
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C22	1-136-157-00	FILM	0.022uF	5%	50V	
C23	1-124-234-00	ELECT	22uF	20%	16V	
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C31	1-124-234-00	ELECT	22uF	20%	16V	
C32	1-124-234-00	ELECT	22uF	20%	16V	
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MD(AX) **MD(BX)**

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P			
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2			
		< JUMPER RESISTOR >			
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW51	1-216-296-00	METAL CHIP	0	5%	1/8W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W
		< TRANSISTOR >			
Q71	8-729-602-36	TRANSISTOR 2SA1602			
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV11	1-241-627-11	RES, ADJ, CARBON 1K			
RV21	1-241-627-11	RES, ADJ, CARBON 1K			
RV71	1-241-630-11	RES, ADJ, CARBON 10K			
RV72	1-241-630-11	RES, ADJ, CARBON 10K			
**********					
*	A-2006-400-A	MD(BX) BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C14	1-136-273-00	FILM	75PF	5%	630V
C15	1-164-080-11	CERAMIC	390PF	10%	50V
C17	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C24	1-136-273-00	FILM	75PF	5%	630V
C25	1-164-080-11	CERAMIC	390PF	10%	50V
C27	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C54	1-136-559-11	FILM	0.0047uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V
		< CONNECTOR >			
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD			
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P			
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P			
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< DIODE >			
D31	8-719-016-74	DIODE 1SS352			
		< IC >			
IC31	8-759-106-02	IC uPC4570G2			
		< JUMPER RESISTOR >			
JW1	1-216-296-00	METAL CHIP	0	5%	1/8W
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W
JW3	1-216-295-00	METAL CHIP	0	5%	1/10W
JW4	1-216-295-00	METAL CHIP	0	5%	1/10W
JW6	1-216-295-00	METAL CHIP	0	5%	1/10W
JW7	1-216-295-00	METAL CHIP	0	5%	1/10W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W
JW55	1-216-296-00	METAL CHIP	0	5%	1/8W
JW56	1-216-296-00	METAL CHIP	0	5%	1/8W

Ref. No.	Part No.	Description			Remark
JW57	1-216-296-00	METAL CHIP	0	5%	1/8W
JW58	1-216-296-00	METAL CHIP	0	5%	1/8W
JW59	1-216-296-00	METAL CHIP	0	5%	1/8W
JW60	1-216-296-00	METAL CHIP	0	5%	1/8W
JW61	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L11	1-410-780-11	INDUCTOR	27mH		
L21	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q51	8-729-808-01	TRANSISTOR	2SD1622-S		
Q52	8-729-808-01	TRANSISTOR	2SD1622-S		
Q53	8-729-808-01	TRANSISTOR	2SD1622-S		
Q71	8-729-602-36	TRANSISTOR	2SA1602		
		< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
⚠R15	1-249-430-11	CARBON	12K	5%	1/4W F
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
⚠R25	1-249-430-11	CARBON	12K	5%	1/4W F
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
⚠R41	1-249-393-11	CARBON	10	5%	1/4W F
⚠R42	1-249-393-11	CARBON	10	5%	1/4W F
R51	1-216-075-00	METAL CHIP	12K	5%	1/10W
R52	1-216-075-00	METAL CHIP	12K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV11	1-241-627-11	RES, ADJ, CARBON 1K			
RV12	1-238-551-11	RES, ADJ, CARBON 220K			
RV21	1-241-627-11	RES, ADJ, CARBON 1K			
RV22	1-238-551-11	RES, ADJ, CARBON 220K			
RV71	1-241-630-11	RES, ADJ, CARBON 10K			

Ref. No.	Part No.	Description			Remark
RV72	1-241-630-11	RES, ADJ, CARBON 10K			
		< RELAY >			
RY31	1-515-913-11	RELAY			
		< TRANSFORMER >			
T51	1-406-419-11	COIL, BIAS OSCILLATION			
**********					
*	A-4356-568-A	POWER AMP BOARD, COMPLETE (H61:AEP, EE, AUS, EA, MY, SP, JE/H61M)			
*	A-4356-574-A	POWER AMP BOARD, COMPLETE (H61:G, IT)			
*	A-4356-577-A	POWER AMP BOARD, COMPLETE (H61:E)			
		**********			
		< CAPACITOR >			
C800	1-124-903-11	ELECT	1uF	20%	50V
C801	1-124-903-11	ELECT	1uF	20%	50V
C802	1-162-290-31	CERAMIC	470PF	10%	50V
C803	1-162-290-31	CERAMIC	470PF	10%	50V
C804	1-162-282-31	CERAMIC	100PF	10%	50V
C805	1-162-282-31	CERAMIC	100PF	10%	50V
C806	1-124-910-11	ELECT	47uF	20%	50V
C807	1-124-910-11	ELECT	47uF	20%	50V
C808	1-124-910-11	ELECT	47uF	20%	50V
C809	1-124-910-11	ELECT	47uF	20%	50V
C810	1-164-159-11	CERAMIC	0.1uF		50V
C811	1-164-159-11	CERAMIC	0.1uF		50V
C812	1-164-159-11	CERAMIC	0.1uF		50V
C813	1-164-159-11	CERAMIC	0.1uF		50V
C821	1-136-161-00	FILM	0.047uF	5%	50V
C822	1-124-917-11	ELECT	33uF	20%	63V
C823	1-124-917-11	ELECT	33uF	20%	63V
C851	1-124-907-11	ELECT	10uF	20%	50V
C852	1-124-925-11	ELECT	2.2uF	20%	100V
C853	1-124-907-11	ELECT	10uF	20%	50V
C854	1-126-176-11	ELECT	220uF	20%	10V
C901	1-126-224-11	ELECT	4700uF	20%	42V
C902	1-126-224-11	ELECT	4700uF	20%	42V
C903	1-164-159-11	CERAMIC	0.1uF		50V
C904	1-164-159-11	CERAMIC	0.1uF		50V
C905	1-124-902-00	ELECT	0.47uF	20%	50V
C906	1-128-547-51	ELECT	6800uF	20%	16V
C907	1-124-898-11	ELECT	4700uF	20%	16V
C908	1-124-925-11	ELECT	2.2uF	20%	100V
C909	1-124-925-11	ELECT	2.2uF	20%	100V
C910	1-124-927-11	ELECT	4.7uF	20%	100V
C911	1-124-925-11	ELECT	2.2uF	20%	100V
C912	1-124-472-11	ELECT	470uF	20%	10V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

POWER AMP

Ref. No.	Part No.	Description			Remark
C913	1-124-472-11	ELECT	470uF	20%	10V
C914	1-124-907-11	ELECT	10uF	20%	50V
C915	1-124-477-11	ELECT	47uF	20%	25V
C916	1-124-907-11	ELECT	10uF	20%	50V
C917	1-124-477-11	ELECT	47uF	20%	25V
C918	1-161-379-00	CERAMIC	0.01uF	20%	25V
C919	1-164-097-11	CERAMIC	0.022uF		50V
C920	1-162-294-31	CERAMIC	0.001uF	10%	50V
C921	1-124-925-11	ELECT	2.2uF	20%	100V
		< CONNECTOR >			
* CN801	1-750-532-11	CONNECTOR (B TO B) 6P			
* CN802	1-564-510-11	PLUG, CONNECTOR 7P			
* CN803	1-564-511-11	PLUG, CONNECTOR 8P			
* CN804	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< DIODE >			
D801	8-719-987-63	DIODE	1N4148M		
D851	8-719-987-63	DIODE	1N4148M		
D901	8-719-987-63	DIODE	1N4148M		
D902	8-719-987-63	DIODE	1N4148M		
D903	8-719-200-82	DIODE	11ES2		
D904	8-719-200-82	DIODE	11ES2		
D905	8-719-200-82	DIODE	11ES2		
D906	8-719-200-82	DIODE	11ES2		
D907	8-719-001-67	DIODE	UZL-12L3		
D908	8-719-933-41	DIODE	HZS6C3L		
D909	8-719-987-63	DIODE	1N4148M		
D910	8-719-987-63	DIODE	1N4148M		
D911	8-719-933-33	DIODE	HZS6A1L		
		< IC >			
IC801	8-749-920-09	IC	STK4152MK2K		
IC802	8-759-111-68	IC	uPC1237HA		
IC901	8-759-602-66	IC	M5230L-A		
		< TRANSISTOR >			
Q801	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
Q802	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
Q850	8-729-900-63	TRANSISTOR	DTA124ES		
Q901	8-729-900-80	TRANSISTOR	DTC114ES		
Q902	8-729-900-89	TRANSISTOR	DTC144ES		
Q903	8-729-209-15	TRANSISTOR	2SD2012		
Q904	8-729-141-83	TRANSISTOR	2SA473		
Q905	8-729-900-89	TRANSISTOR	DTC144ES		
Q906	8-729-900-65	TRANSISTOR	DTA144ES		
Q907	8-729-018-60	TRANSISTOR	2SD2012-LC		
Q908	8-729-018-60	TRANSISTOR	2SD2012-LC		

Ref. No.	Part No.	Description				Remark
Q909	8-729-900-80	TRANSISTOR	DTC114ES			
Q910	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q911	8-729-119-76	TRANSISTOR	2SA1175-HFE			
		< RESISTOR >				
⚠R677	1-212-996-00	FUSIBLE	390	5%	1/2W	F
R800	1-249-438-11	CARBON	56K	5%	1/4W	
R801	1-249-438-11	CARBON	56K	5%	1/4W	
R802	1-249-414-11	CARBON	560	5%	1/4W	
R803	1-249-414-11	CARBON	560	5%	1/4W	
R804	1-249-438-11	CARBON	56K	5%	1/4W	
R805	1-249-438-11	CARBON	56K	5%	1/4W	
R806	1-249-421-11	CARBON	2.2K	5%	1/4W	
R807	1-249-421-11	CARBON	2.2K	5%	1/4W	
R808	1-247-717-11	CARBON	2.2K	5%	1/4W	
R809	1-247-717-11	CARBON	2.2K	5%	1/4W	
R810	1-249-417-11	CARBON	1K	5%	1/4W	
R811	1-249-417-11	CARBON	1K	5%	1/4W	
R812	1-249-431-11	CARBON	15K	5%	1/4W	
R813	1-249-431-11	CARBON	15K	5%	1/4W	
R814	1-249-441-11	CARBON	100K	5%	1/4W	
R815	1-249-441-11	CARBON	100K	5%	1/4W	
⚠R816	1-217-151-00	RES, METAL PLATE	0.22			
⚠R817	1-217-151-00	RES, METAL PLATE	0.22			
R818	1-247-688-11	CARBON	10	5%	1/4W	
R819	1-247-688-11	CARBON	10	5%	1/4W	
R820	1-249-438-11	CARBON	56K	5%	1/4W	
R821	1-249-437-11	CARBON	47K	5%	1/4W	
⚠R831	1-247-700-11	CARBON	100	5%	1/4W	F
⚠R832	1-247-700-11	CARBON	100	5%	1/4W	F
R851	1-249-430-11	CARBON	12K	5%	1/4W	
R852	1-249-439-11	CARBON	68K	5%	1/4W	
R853	1-249-433-11	CARBON	22K	5%	1/4W	
R854	1-249-429-11	CARBON	10K	5%	1/4W	
R855	1-249-433-11	CARBON	22K	5%	1/4W	
R856	1-249-441-11	CARBON	100K	5%	1/4W	
R903	1-249-417-11	CARBON	1K	5%	1/4W	
R904	1-249-429-11	CARBON	10K	5%	1/4W	
R905	1-247-903-00	CARBON	1M	5%	1/4W	
R906	1-249-409-11	CARBON	220	5%	1/4W	
R907	1-249-409-11	CARBON	220	5%	1/4W	
R908	1-249-414-11	CARBON	560	5%	1/4W	
R909	1-249-414-11	CARBON	560	5%	1/4W	
R910	1-249-431-11	CARBON	15K	5%	1/4W	
R911	1-249-431-11	CARBON	15K	5%	1/4W	
R912	1-249-429-11	CARBON	10K	5%	1/4W	
R913	1-249-423-11	CARBON	3.3K	5%	1/4W	
⚠R914	1-219-193-11	FUSIBLE	220	5%	1/2W	F
R915	1-249-420-11	CARBON	1.8K	5%	1/4W	

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Ref. No.	Part No.	Description				Remark
⚠R916	1-217-642-91	FUSIBLE	6.8	5%	1/4W	F
R917	1-249-413-11	CARBON	470	5%	1/4W	
R918	1-249-417-11	CARBON	1K	5%	1/4W	
R919	1-249-417-11	CARBON	1K	5%	1/4W	
R920	1-249-425-11	CARBON	4.7K	5%	1/4W	
R921	1-249-417-11	CARBON	1K	5%	1/4W	
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*	1-646-898-11	POWER SUPPLY BOARD				
		**********				
		< CAPACITOR >				
C921	1-164-159-11	CERAMIC	0.1uF			50V
C922	1-164-159-11	CERAMIC	0.1uF			50V
C923	1-124-910-11	ELECT	47uF	20%		50V
C924	1-124-910-11	ELECT	47uF	20%		50V
		< CONNECTOR >				
* CN911	1-564-321-00	PIN, CONNECTOR 2P				
* CN912	1-750-533-11	CONNECTOR (B TO B) 6P				
* CN913	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< DIODE >				
D911	8-719-312-09	DIODE RBA-402				
D912	8-719-934-13	DIODE HZS24-1L				
		< FUSE >				
⚠F901	1-532-078-00	FUSE (T1A 250V) (H61/H61M:AEP, UK)				
⚠F901	1-576-107-12	FUSE (3.15A 250V) (H61M:US, CND)				
⚠F902	1-532-203-00	FUSE (T2A 250V) (H61:E, EA, MY, SE, JE)				
		< FUSE HOLDER >				
* FH911	1-533-213-11	HOLDER, FUSE (H61:E, EA, MY, SP, JE)				
* FH911	1-533-293-11	HOLDER, FUSE (H61:AEP, G, IT, EE, AUS/H61M)				
* FH912	1-533-213-31	HOLDER, FUSE (H61:E, EA, MY, SP, JE)				
* FH912	1-533-293-11	HOLDER, FUSE (H61:AEP, G, IT, EE, AUS/H61M)				
* FH913	1-533-213-11	HOLDER, FUSE (H61:E, EA, MY, SP, JE)				
* FH914	1-533-213-31	HOLDER, FUSE (H61:E, EA, MY, SP, JE)				
		< TRANSISTOR >				
Q911	8-729-018-59	TRANSISTOR 2SB1375-LC				
		< RESISTOR >				
⚠R921	1-219-134-11	FUSIBLE	0.1	5%	1/4W	F
⚠R922	1-219-134-11	FUSIBLE	0.1	5%	1/4W	F
R923	1-249-421-11	CARBON	2.2K	5%	1/4W	
⚠R926	1-212-881-11	FUSIBLE	100	5%	1/4W	F

Ref. No.	Part No.	Description				Remark
R9001	1-202-725-00	SOLID	3.3M	10%	1/2W	(H61M:US, CND)
		< SWITCH >				
S901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (H61:E, EA, MY, SP, JE)				
		< TRANSFORMER >				
⚠T901	1-423-447-11	TRANSFORMER, POWER (H61M:US, CND)				
⚠T901	1-423-448-11	TRANSFORMER, POWER (H61:AUS/H61M:UK)				
⚠T901	1-423-450-11	TRANSFORMER, POWER (H61:AEP, G, IT, EE/H61M:AEP)				
⚠T901	1-423-451-11	TRANSFORMER, POWER (H61:E, EA, MY, SP, JE)				
**********						
*	1-634-841-14	SW(A) BOARD				
		**********				
	3-343-419-01	HOLDER (S SENSER A)				
		< CONNECTOR >				
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P				
		< IC >				
IC81	8-719-710-03	DI ODE	NJL5165K-B			
		< RESISTOR >				
R84	1-249-417-11	CARBON	1K	5%	1/4W	
R85	1-249-408-11	CARBON	180	5%	1/4W	
		< SWITCH >				
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (SPOP)				
S82	1-571-281-21	SWITCH, LEAF (Cr02)				
S86	1-571-281-21	SWITCH, LEAF (HALF)				
**********						
*	1-634-841-14	SW(B) BOARD				
		**********				
	3-343-419-01	HOLDER (S SENSER A)				
		< CONNECTOR >				
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P				
		< IC >				
IC81	8-719-710-03	DI ODE	NJL5165K-B			
		< RESISTOR >				
R81	1-249-414-11	CARBON	560	5%	1/4W	F

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SW(B) SWITCH

Ref. No.	Part No.	Description				Remark
R82	1-247-818-11	CARBON	300	5%	1/4W	
R83	1-247-834-11	CARBON	1.3K	5%	1/4W	
R84	1-249-417-11	CARBON	1K	5%	1/4W	F
R85	1-249-408-11	CARBON	180	5%	1/4W	F
		< SWITCH >				
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)				
S82	1-571-281-21	SWITCH, LEAF (CrO2)				
S83	1-571-281-21	SWITCH, LEAF (METAL)				
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF (DECK A))				
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF (DECK B))				
S86	1-571-281-21	SWITCH, LEAF (HALF)				
**********						
*	A-4356-584-A	SWITCH BOARD, COMPLETE				
		**********				
		< CONNECTOR >				
* CN551	1-568-858-11	SOCKET, CONNECTOR 15P				
		< DIODE >				
D551	8-719-032-90	LED SEL5420S (◁ DECK A)				
D552	8-719-032-90	LED SEL5420S (▷ DECK A)				
D553	8-719-032-82	LED SEL5220S (HIGH SPEED DUBBING)				
D555	8-719-032-82	LED SEL5220S (CD SYNCHRO)				
D556	8-719-033-06	LED SEL5920A (❚❚)				
D557	8-719-032-90	LED SEL5420S (◁ DECK B)				
D558	8-719-032-90	LED SEL5420S (▷ DECK B)				
D559	8-719-032-82	LED SEL5220S (● REC)				
		< RESISTOR >				
R551	1-249-407-11	CARBON	150	5%	1/4W	
R552	1-249-409-11	CARBON	220	5%	1/4W	
R553	1-249-411-11	CARBON	330	5%	1/4W	
R554	1-249-413-11	CARBON	470	5%	1/4W	
R555	1-249-415-11	CARBON	680	5%	1/4W	
R556	1-249-417-11	CARBON	1K	5%	1/4W	
R557	1-249-420-11	CARBON	1.8K	5%	1/4W	
R558	1-249-424-11	CARBON	3.9K	5%	1/4W	
R559	1-249-407-11	CARBON	150	5%	1/4W	
R560	1-249-409-11	CARBON	220	5%	1/4W	
R561	1-249-411-11	CARBON	330	5%	1/4W	
R562	1-249-413-11	CARBON	470	5%	1/4W	
R563	1-249-415-11	CARBON	680	5%	1/4W	
R564	1-249-417-11	CARBON	1K	5%	1/4W	
R565	1-249-426-11	CARBON	5.6K	5%	1/4W	
R566	1-249-430-11	CARBON	12K	5%	1/4W	
R574	1-249-405-11	CARBON	100	5%	1/4W	
R575	1-249-406-11	CARBON	120	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R576	1-249-406-11	CARBON	120	5%	1/4W	
R577	1-249-407-11	CARBON	150	5%	1/4W	
R578	1-249-408-11	CARBON	180	5%	1/4W	
R579	1-249-409-11	CARBON	220	5%	1/4W	
R580	1-249-410-11	CARBON	270	5%	1/4W	
R581	1-249-411-11	CARBON	330	5%	1/4W	
R582	1-249-413-11	CARBON	470	5%	1/4W	
R583	1-249-414-11	CARBON	560	5%	1/4W	
R584	1-249-416-11	CARBON	820	5%	1/4W	
R585	1-249-418-11	CARBON	1.2K	5%	1/4W	
R586	1-249-421-11	CARBON	2.2K	5%	1/4W	
		< SWITCH >				
S551	1-572-184-11	SWITCH, KEYBOARD (■ DECK A)				
S552	1-572-184-11	SWITCH, KEYBOARD (▷ DECK A)				
S553	1-572-184-11	SWITCH, KEYBOARD (◁ DECK A)				
S554	1-572-184-11	SWITCH, KEYBOARD (◀◀ DECK B)				
S555	1-572-184-11	SWITCH, KEYBOARD (▶▶ DECK B)				
S556	1-572-184-11	SWITCH, KEYBOARD (● DECK B)				
S557	1-572-184-11	SWITCH, KEYBOARD (HIGH SPEED DUBBING)				
S559	1-572-184-11	SWITCH, KEYBOARD (CD SYNCHRO)				
S560	1-572-184-11	SWITCH, KEYBOARD (■ DECK B)				
S561	1-572-184-11	SWITCH, KEYBOARD (❚❚ DECK B)				
S562	1-572-184-11	SWITCH, KEYBOARD (▷ DECK B)				
S563	1-572-184-11	SWITCH, KEYBOARD (◁ DECK B)				
S564	1-572-184-11	SWITCH, KEYBOARD (◀◀ DECK A)				
S565	1-572-184-11	SWITCH, KEYBOARD (▶▶ DECK A)				
S566	1-572-378-11	SWITCH, SLIDE (DIRECTION)				
S567	1-572-184-11	SWITCH, KEYBOARD (⏏ OPEN/CLOSE)				
S568	1-572-184-11	SWITCH, KEYBOARD (■ CD)				
S569	1-572-184-11	SWITCH, KEYBOARD (❚❚ CD)				
S570	1-572-184-11	SWITCH, KEYBOARD (▷ CD)				
S571	1-572-184-11	SWITCH, KEYBOARD (⏮/◀◀ CD)				
S572	1-572-184-11	SWITCH, KEYBOARD (⏭/▶▶ CD)				
S573	1-572-184-11	SWITCH, KEYBOARD (TIME)				
S574	1-572-184-11	SWITCH, KEYBOARD (REPEAT)				
S575	1-572-184-11	SWITCH, KEYBOARD (PROGRAM)				
S576	1-572-184-11	SWITCH, KEYBOARD (SHUFFLE)				
S577	1-572-184-11	SWITCH, KEYBOARD (CONTINUE)				
S578	1-572-184-11	SWITCH, KEYBOARD (EDIT)				
S579	1-572-184-11	SWITCH, KEYBOARD (CLEAR)				
S580	1-572-184-11	SWITCH, KEYBOARD (CHECK)				
S587	1-572-935-11	SWITCH, SLIDE (DOLBY NR)				
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Ref. No.	Part No.	Description			Remark
*	A-4356-582-A	TC BOARD, COMPLETE (H61:G, IT)			
*	A-4356-583-A	TC BOARD, COMPLETE (H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)			
*	A-4356-586-A	TC BOARD, COMPLETE (H61:AEP, EE/H61M:AEP, UK)			
		**********			
		< CAPACITOR >			
C121	1-124-443-00	ELECT	100uF	20%	10V
C122	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C123	1-124-903-11	ELECT	1uF	20%	50V
C125	1-124-907-11	ELECT	10uF	20%	50V
C126	1-136-165-00	FILM	0.1uF	5%	50V
C127	1-124-907-11	ELECT	10uF	20%	50V
C128	1-124-903-11	ELECT	1uF	20%	50V
C129	1-124-902-00	ELECT	0.47uF	20%	50V
C130	1-124-907-11	ELECT	10uF	20%	50V
C131	1-164-159-11	CERAMIC	0.1uF		50V
C132	1-124-907-11	ELECT	10uF	20%	50V
C134	1-162-294-31	CERAMIC	0.001uF	10%	50V
C221	1-124-443-00	ELECT	100uF	20%	10V
C222	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C223	1-124-903-11	ELECT	1uF	20%	50V
C225	1-124-907-11	ELECT	10uF	20%	50V
C226	1-136-165-00	FILM	0.1uF	5%	50V
C227	1-124-907-11	ELECT	10uF	20%	50V
C228	1-124-903-11	ELECT	1uF	20%	50V
C229	1-124-902-00	ELECT	0.47uF	20%	50V
C230	1-124-907-11	ELECT	10uF	20%	50V
C231	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C232	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C233	1-124-902-00	ELECT	0.47uF	20%	50V
C234	1-162-294-31	CERAMIC	0.001uF	10%	50V
C401	1-124-126-00	ELECT	47uF	20%	10V
C402	1-124-126-00	ELECT	47uF	20%	10V
C403	1-164-159-11	CERAMIC	0.1uF		50V
C404	1-124-903-11	ELECT	1uF	20%	50V
C405	1-126-101-11	ELECT	100uF	20%	16V
C406	1-126-101-11	ELECT	100uF	20%	16V
C451	1-126-101-11	ELECT	100uF	20%	16V
C452	1-126-101-11	ELECT	100uF	20%	16V
C453	1-161-379-00	CERAMIC	0.01uF	20%	25V
C454	1-161-379-00	CERAMIC	0.01uF	20%	25V
C456	1-162-290-31	CERAMIC	470PF	10%	50V
C457	1-162-290-31	CERAMIC	470PF	10%	50V
C458	1-164-159-11	CERAMIC	0.1uF		50V
C459	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN401	1-564-517-11	PLUG, CONNECTOR 2P	
CN402	1-580-783-11	CONNECTOR, BOARD TO BOARD (H61:AEP, G, IT, EE/H61M:AEP, UK)	
* CN402	1-580-783-21	CONNECTOR, BOARD TO BOARD (H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)	
CN403	1-580-783-11	CONNECTOR, BOARD TO BOARD (H61:AEP, G, IT, EE/H61M:AEP, UK)	
* CN403	1-580-783-21	CONNECTOR, BOARD TO BOARD (H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)	
CN404	1-580-783-11	CONNECTOR, BOARD TO BOARD (H61:AEP, G, IT, EE/H61M:AEP, UK)	
* CN404	1-580-783-21	CONNECTOR, BOARD TO BOARD (H61:E, AUS, EA, MY, SP, JE/H61M:US, CND)	
CN405	1-573-101-11	SOCKET, CONNECTOR 9P	
CN406	1-573-101-11	SOCKET, CONNECTOR 9P	
* CN407	1-565-980-11	HOUSING, CONNECTOR(PC BOARD) 9P	
* CN408	1-565-980-11	HOUSING, CONNECTOR(PC BOARD) 9P	
* CN409	1-568-848-11	SOCKET, CONNECTOR 5P	
* CN410	1-568-858-11	SOCKET, CONNECTOR 15P	
* CN411	1-564-520-11	PLUG, CONNECTOR 5P	
		< DIODE >	
D301	8-719-200-82	DIODE 11ES2	
D302	8-719-200-82	DIODE 11ES2	
D351	8-719-987-63	DIODE 1N4148M	
D402	8-719-987-63	DIODE 1N4148M	
D403	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC401	8-759-166-04	IC M50964-260FPK	
IC402	8-759-520-90	IC PST572E	
IC403	8-759-098-75	IC HA12171NT	
IC404	8-759-207-05	IC TA7272P	
		< COIL >	
L401	1-410-482-31	INDUCTOR 100uH	
L402	1-410-482-31	INDUCTOR 100uH	
		< TRANSISTOR >	
Q101	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q400	8-729-900-61	TRANSISTOR DTA114ES	
Q401	8-729-900-65	TRANSISTOR DTA144ES	
Q402	8-729-900-65	TRANSISTOR DTA144ES	
Q403	8-729-900-65	TRANSISTOR DTA144ES	
Q404	8-729-900-65	TRANSISTOR DTA144ES	
Q405	8-729-900-65	TRANSISTOR DTA144ES	

TC

Ref. No.	Part No.	Description				Remark
Q407	8-729-900-89	TRANSISTOR	DTC144ES			
Q408	8-729-900-65	TRANSISTOR	DTA144ES			
Q411	8-729-801-84	TRANSISTOR	2SB1013-4			
Q412	8-729-801-84	TRANSISTOR	2SB1013-4			
Q413	8-729-900-65	TRANSISTOR	DTA144ES			
Q414	8-729-900-89	TRANSISTOR	DTC144ES			
Q415	8-729-620-05	TRANSISTOR	2SC2603-EF			
		< RESISTOR >				
R121	1-249-430-11	CARBON	12K	5%	1/4W	
R122	1-249-431-11	CARBON	15K	5%	1/4W	
R123	1-215-451-00	METAL	18K	1%	1/6W	
R124	1-249-429-11	CARBON	10K	5%	1/4W	
R125	1-249-429-11	CARBON	10K	5%	1/4W	
R127	1-249-429-11	CARBON	10K	5%	1/4W	
R130	1-249-429-11	CARBON	10K	5%	1/4W	
R131	1-249-425-11	CARBON	4.7K	5%	1/4W	
R132	1-249-429-11	CARBON	10K	5%	1/4W	
R133	1-249-429-11	CARBON	10K	5%	1/4W	
R135	1-247-864-11	CARBON	24K	5%	1/4W	
R137	1-249-426-11	CARBON	5.6K	5%	1/4W	
R141	1-249-421-11	CARBON	2.2K	5%	1/4W	
R142	1-247-838-00	CARBON	2K	5%	1/4W	
R143	1-247-846-11	CARBON	4.3K	5%	1/4W	
R144	1-249-433-11	CARBON	22K	5%	1/4W	
R145	1-249-425-11	CARBON	4.7K	5%	1/4W	
R221	1-249-430-11	CARBON	12K	5%	1/4W	
R222	1-249-431-11	CARBON	15K	5%	1/4W	
R223	1-249-426-11	CARBON	5.6K	5%	1/4W	
R224	1-249-429-11	CARBON	10K	5%	1/4W	
R225	1-249-441-11	CARBON	100K	5%	1/4W	
R226	1-247-864-11	CARBON	24K	5%	1/4W	
R227	1-249-429-11	CARBON	10K	5%	1/4W	
R229	1-249-429-11	CARBON	10K	5%	1/4W	
R230	1-249-432-11	CARBON	18K	5%	1/4W	
R231	1-247-885-00	CARBON	180K	5%	1/4W	
R241	1-249-421-11	CARBON	2.2K	5%	1/4W	
R242	1-247-838-00	CARBON	2K	5%	1/4W	
R243	1-247-846-11	CARBON	4.3K	5%	1/4W	
R244	1-249-433-11	CARBON	22K	5%	1/4W	
R245	1-249-425-11	CARBON	4.7K	5%	1/4W	
⚠R301	1-249-456-11	CARBON	5.6	5%	1/4W	F
R351	1-249-429-11	CARBON	10K	5%	1/4W	
R401	1-249-429-11	CARBON	10K	5%	1/4W	
R402	1-247-903-00	CARBON	1M	5%	1/4W	
R403	1-247-895-00	CARBON	470K	5%	1/4W	
R404	1-247-895-00	CARBON	470K	5%	1/4W	
R405	1-249-410-11	CARBON	270	5%	1/4W	
R406	1-249-410-11	CARBON	270	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R408	1-249-410-11	CARBON	270	5%	1/4W	
R409	1-249-410-11	CARBON	270	5%	1/4W	
R411	1-249-407-11	CARBON	150	5%	1/4W	
R412	1-249-411-11	CARBON	330	5%	1/4W	
R413	1-249-421-11	CARBON	2.2K	5%	1/4W	
R414	1-249-421-11	CARBON	2.2K	5%	1/4W	
R415	1-249-429-11	CARBON	10K	5%	1/4W	
R416	1-249-425-11	CARBON	4.7K	5%	1/4W	
R417	1-249-441-11	CARBON	100K	5%	1/4W	
R419	1-249-417-11	CARBON	1K	5%	1/4W	
R420	1-249-429-11	CARBON	10K	5%	1/4W	
R421	1-249-425-11	CARBON	4.7K	5%	1/4W	
R422	1-249-429-11	CARBON	10K	5%	1/4W	
R431	1-249-429-11	CARBON	10K	5%	1/4W	
R432	1-249-415-11	CARBON	680	5%	1/4W	
R433	1-249-429-11	CARBON	10K	5%	1/4W	
R434	1-249-415-11	CARBON	680	5%	1/4W	
R451	1-249-425-11	CARBON	4.7K	5%	1/4W	
R452	1-249-435-11	CARBON	33K	5%	1/4W	
R453	1-249-437-11	CARBON	47K	5%	1/4W	
R454	1-247-872-11	CARBON	51K	5%	1/4W	
R455	1-247-862-11	CARBON	20K	5%	1/4W	
R456	1-247-866-11	CARBON	30K	5%	1/4W	
R457	1-247-872-11	CARBON	51K	5%	1/4W	
R458	1-249-405-11	CARBON	100	5%	1/4W	
R459	1-249-381-11	CARBON	1	5%	1/4W	
R460	1-249-381-11	CARBON	1	5%	1/4W	
R461	1-249-425-11	CARBON	4.7K	5%	1/4W	
R462	1-249-435-11	CARBON	33K	5%	1/4W	
R463	1-249-437-11	CARBON	47K	5%	1/4W	
R464	1-247-872-11	CARBON	51K	5%	1/4W	
R465	1-247-862-11	CARBON	20K	5%	1/4W	
R466	1-247-866-11	CARBON	30K	5%	1/4W	
R467	1-247-872-11	CARBON	51K	5%	1/4W	
R468	1-249-405-11	CARBON	100	5%	1/4W	
R469	1-249-381-11	CARBON	1	5%	1/4W	
R470	1-249-381-11	CARBON	1	5%	1/4W	
R471	1-249-425-11	CARBON	4.7K	5%	1/4W	
R472	1-249-434-11	CARBON	27K	5%	1/4W	
R473	1-249-425-11	CARBON	4.7K	5%	1/4W	
R474	1-249-429-11	CARBON	10K	5%	1/4W	
R475	1-249-434-11	CARBON	27K	5%	1/4W	
R476	1-249-429-11	CARBON	10K	5%	1/4W	
R477	1-249-410-11	CARBON	270	5%	1/4W	
R478	1-249-410-11	CARBON	270	5%	1/4W	
		< VARIABLE RESISTOR >				
RV103	1-241-136-11	RES, ADJ, CARBON 10K				
RV203	1-241-136-11	RES, ADJ, CARBON 10K				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

TC VOL

Ref. No.	Part No.	Description			Remark
		< VIBRATOR >			
X401	1-577-082-11	VIBRATOR, CERAMIC (4MHz)			
**********					
*	1-646-894-11	VOL BOARD			
		*********			
		< CAPACITOR >			
C200	1-126-924-11	ELECT	330uF	20%	10V
C201	1-124-907-11	ELECT	10uF	20%	50V
C202	1-124-907-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
* CN201	1-566-972-11	PIN, CONNECTOR (PC BOARD) 7P			
		< IC >			
IC200	8-759-820-62	IC LB1639			
		< RESISTOR >			
R200	1-249-417-11	CARBON	1K	5%	1/4W
R201	1-249-417-11	CARBON	1K	5%	1/4W
R202	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV200	1-223-301-11	RES, VAR, CARBON (WITH MOTOR) 10K (VOLUME)			
**********					
		MISCELLANEOUS			
		**********			
9	1-501-594-21	ANTENNA (FM) (G, IT)			
56	1-696-922-11	WIRE (FLAT TYPE) (15 CORE)			
57	1-696-923-11	WIRE (FLAT TYPE) (5 OCRE)			
58	1-696-924-11	WIRE (FLAT TYPE) (5 CORE) (US, CND)			
60	1-696-920-11	WIRE (FLAT TYPE) (11 CORE)			
65	1-690-588-31	WIRE, FLAT TYPE (9 CORE)			
68	1-696-921-11	WIRE (FLAT TYPE) (19 CORE)			
73	1-696-919-11	WIRE (FLAT TYPE) (5 CORE) (E, AUS, EA, MY, SP, JE)			
167	1-638-983-11	PC BOARD, MOTOR FLEXIBLE			
268	1-590-530-11	WIRE, FLAT TYPE			
⚠304	8-848-144-11	DEVICE, OPTICAL KSS-240A			
305	1-575-001-11	WIRE, FLAT TYPE (12 CORE)			
ANT1	1-501-321-51	ANTENNA, TELESCOPIC (H61)			
⚠F901	1-532-078-00	FUSE (T1A/250V) (H61/H61M:AEP, UK)			
⚠F901	1-576-107-11	FUSE (3.15A/250V) (US, CND)			
⚠F902	1-532-203-00	FUSE (T2A/250V) (E, EA, MY, SP, JE)			
HP101	A-2003-837-F	BASE ASSY, HEAD (DECK A)			
HRP101	A-2003-838-A	DECK ASSY, HEAD (DECK B)			

Ref. No.	Part No.	Description	Remark
IC81A	8-719-710-03	DIODE NJL5165K-B (DECK A)	
IC81B	8-719-710-03	DIODE NJL5165K-B (DECK B)	
M101A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M101B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
M102A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M102B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M291	A-4608-362-A	MOTOR (L) ASSY (LOADING)	
M301	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M302	X-4917-504-1	MOTOR ASSY (SLED)	
⚠T901	1-423-447-11	TRANSFORMER, POWER (US, CND)	
⚠T901	1-423-448-11	TRANSFORMER, POWER (AUS, UK)	
⚠T901	1-423-450-11	TRANSFORMER, POWER (AEP, G, IT, EE)	
⚠T901	1-423-451-11	TRANSFORMER, POWER (E, EA, MY, SP, JE)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-466-944-11	REMOTE COMMANDER (RM-S61)	
	4-941-762-11	COVER (MLY), BATTERY (FOR RM-S61)	
*	4-956-936-01	CUSHION (LOWER)	
*	4-956-937-01	CUSHION (UPPER)	
**********			

****
HARDWARE LIST
****

#1	7-685-871-01	SCREW +BVTT 3X6 (S)
#2	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#4	7-682-548-04	SCREW +BVTT 3X8 (S)
#5	7-621-255-15	SCREW +PTT 2X3 (S)
#6	7-621-770-67	SCREW +PTT 2.6X6 (S)
#7	7-627-556-08	SCREW +P 2.6X2.8
#8	7-621-775-00	SCREW +B 2.6X3
#9	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT
#10	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#11	7-624-105-04	STOP RING 2.3, TYPE -E
#12	7-621-775-10	SCREW +B 2.6X4
#13	7-682-550-09	SCREW +B 3X12 (H61)
#14	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S (H61)
#15	7-685-647-71	SCREW +BVTP 3X10 TYPE2 IT-3

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SS-H51

SERVICE MANUAL

AEP Model

SPECIFICATIONS

Speaker system	3 - way system
Speaker units	Woofer : 13 cm dia., cone type
	Tweeter : 5 cm dia., cone type
	Super tweeter: 2 cm dia., dome type
Enclosure	Bass reflex
Frequency range	65 Hz – 20 kHz
Sensitivity	88 dB/W/m
Rated impedance	6 ohms
Dimensions	Approx. 175 x 285 x 235 mm
	(7 x 11 1/4 x 9 3/8 inches)
Mass	Approx. 2.9 kg (6 lb 6 oz) net per speaker

Design and specifications subject to change without notice.

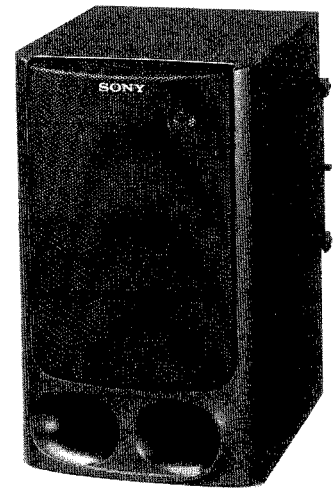
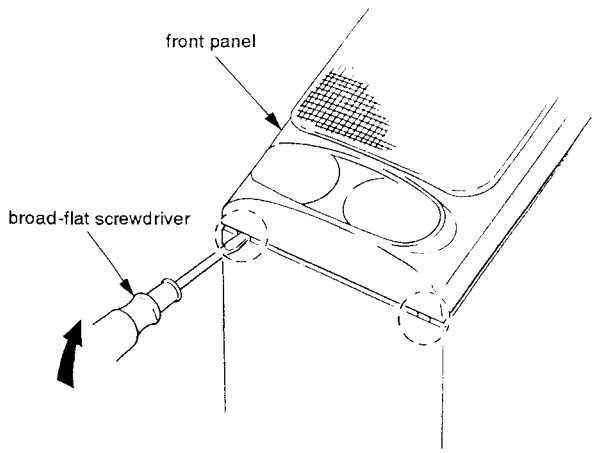


Photo: L-CH

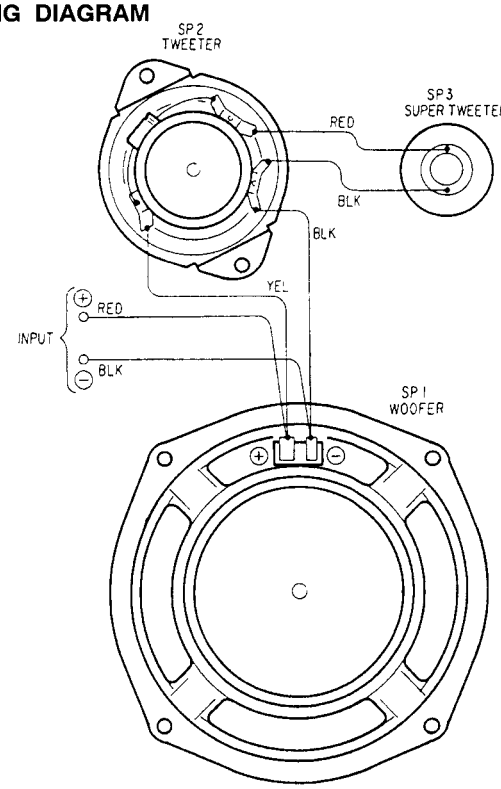
This set is the speaker system in FH-B510, and FH-B610.

1. FRONT PANEL REMOVAL

Note: Be careful not to scratch the cabinet.



2. WIRING DIAGRAM



MICROFILM

SPEAKER SYSTEM

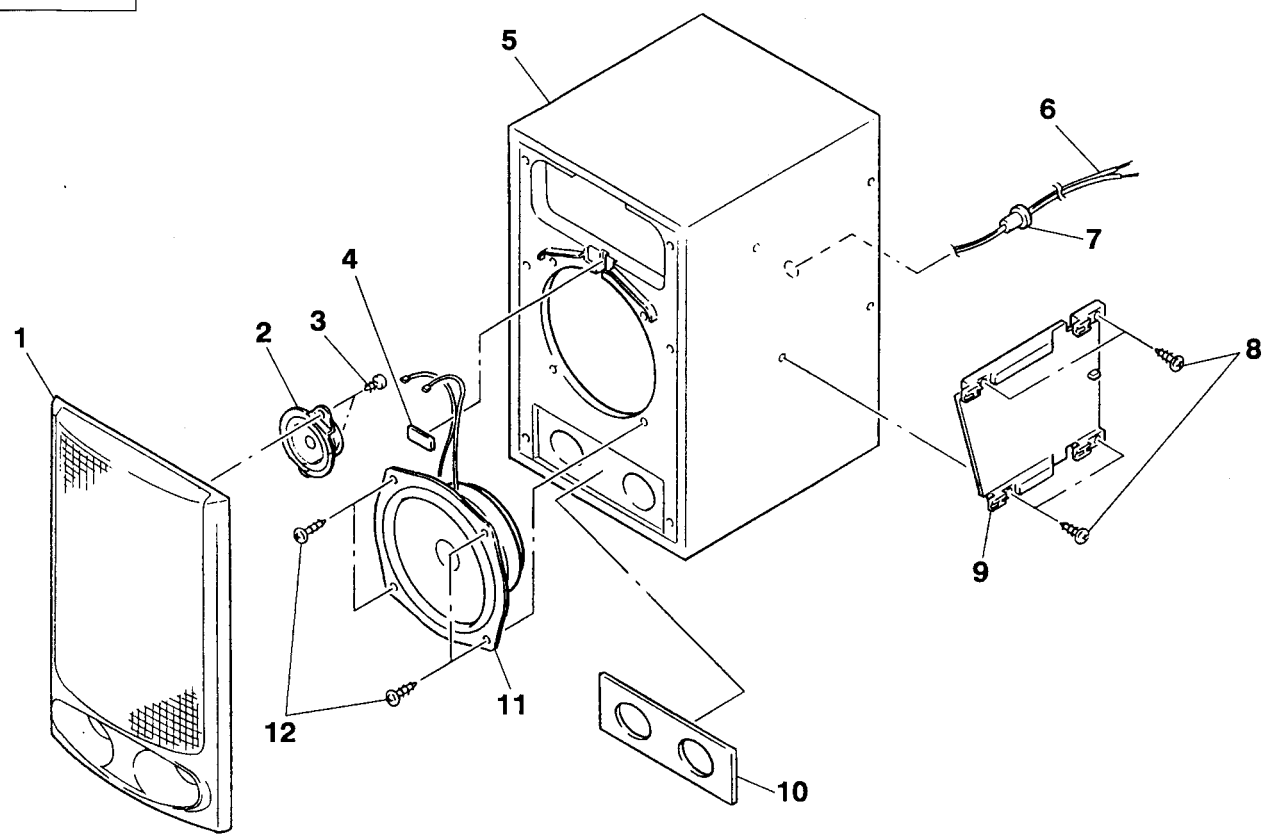
SONY®

3. EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

Illust: L-CH



Ref. No.	Part No.	Description	Remark
1	X-4943-045-1	PANEL (L) ASSY, FRONT (Including super tweeter)	
1	X-4943-046-1	PANEL (R) ASSY, FRONT (Including super tweeter)	
2	1-504-158-11	SPEAKER (5CM) (Including capacitor)	
3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 SLIT	
4	9-911-844-XX	PACKING	
5	X-4943-044-1	CABINET ASSY, SPEAKER	
6	1-696-941-11	CORD, SPEAKER	
7	4-870-003-00	CLIPPER, CORD	
8	4-874-614-61	SCREW +BVTP 3.5X16	
9	4-950-752-01	PANEL (L), SIDE	
9	4-950-753-01	PANEL (R), SIDE	
* 10	4-955-257-01	PACKING	
11	1-504-157-11	SPEAKER (12CM)	
12	4-874-614-11	SCREW +BVTP 3.5X14	
**********			
		PACKING MATERIAL **********	
*	4-956-539-01	CUSHION	

9-957-545-11

Sony Corporation
Audio Group

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